

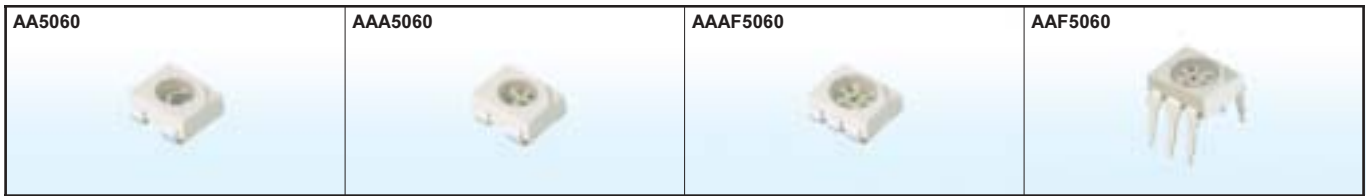
Kingbright Catalog

2003-2004



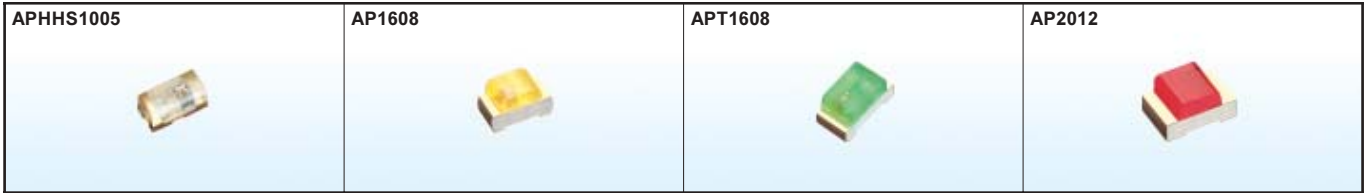
INDEX

- | | | | |
|--------|------------------------------|--------|---------------------------------|
| P2 | HIGH CURRENT LED LAMPS | P25 | BACK LIGHT & SIDE VIEW |
| P3-20 | SURFACE MOUNT LED LAMPS | P26-34 | SMD TAPE SPECIFICATIONS |
| P21-22 | SMD INFRARED EMITTING DIODES | P34-35 | SMD DISPLAY TAPE SPECIFICATIONS |
| P23 | SMD PHOTOTRANSISTORS | P36-39 | RECOMMENDED SOLDERING PATTERN |
| P24 | THROUGH HOLE LED LAMPS | | |



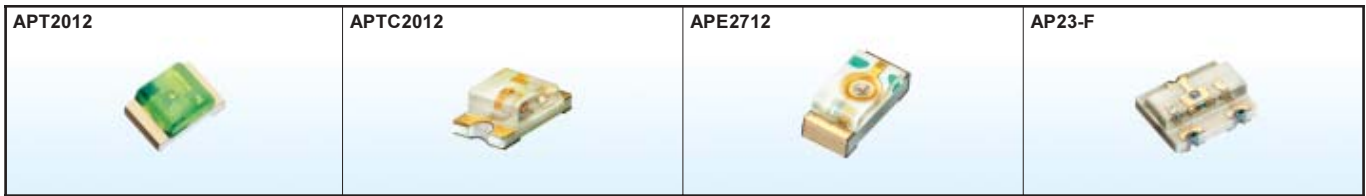
Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @30mA*50mA		Viewing Angle 2θ1/2	Dimension	
				Min.	Typ.			
AA5060SURC/E	InGaAlP	630	water clear	*380	*700	100°	5.0mm x 6.0mm 	
AA5060SURC/G	InGaAlP	630	water clear	*480	*750	100°		
AA5060SEC/E	InGaAlP	621	water clear	*650	*1000	100°		
AA5060SEC/H	InGaAlP	630	water clear	*1500	*2300	100°		
AA5060SYC/E	InGaAlP	595	water clear	*280	*500	100°		
AA5060SYC/H	InGaAlP	589	water clear	*380	*700	100°		
AA5060TGC	InGaN	505	water clear	70	250	100°		
AA5060VGC	InGaN	525	water clear	180	350	100°		
AA5060PBC/G	InGaN	470	water clear	180	300	100°		
AA5060PBC/H	InGaN	470	water clear	280	500	100°		
AA5060PWC/G	InGaN	-	water clear	380	800	100°	X=0.33, Y=0.34	
AA5060PWC/H	InGaN	-	water clear	650	1100	100°	X=0.33, Y=0.34	
AAA5060SUREVGC	InGaAlP	630	water clear	*380	*700	100°	5.0mm x 6.0mm 	
	InGaN	525		280	600			
AAA5060SYEVGC	InGaAlP	595	water clear	*280	*500	100°		
	InGaN	525		280	600			
AAA5060SEEVGPBE	InGaAlP	621	water clear	*650	*1000	100°		
	InGaN	470		110	250			
AAA5060SURVGPBE	InGaAlP	628	water clear	*380	*500	100°		
	InGaN	525		180	350			
	InGaN	470		110	250			
AAAF5060BESEEVG	InGaN	470	water clear	110	250	100°		5.0mm x 6.0mm
	InGaAlP	621		*650	*1000			
	InGaN	525		180	350			
AAAF5060BESUVGC	InGaN	470	water clear	110	250	100°		
	InGaAlP	628		*380	*500			
	InGaN	525		180	350			
AAAF5060PBSEEVG	InGaN	470	water clear	110	250	100°	5.0mm x 6.0mm 	
	InGaAlP	621		*650	*1000			
	InGaN	525		180	350			
AAAF5060PBESURVG	InGaN	470	water clear	110	250	100°		
	InGaAlP	628		*380	*500			
	InGaN	525		180	350			

NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
APHHS1005SURCK	InGaAlP	635	water clear	50	140	120°	1.0mm x 0.5mm x 0.5mm (0402)
APHHS1005SECK	InGaAlP	601	water clear	50	180	120°	
APHHS1005SYCK	InGaAlP	590	water clear	18	60	120°	
APHHS1005MGCK	InGaAlP	570	water clear	18	45	120°	
AP1608EC	GaAsP/GaP	625	water clear	4	12	120°	1.6mm x 0.8mm x 1.1mm (0603)
AP1608SRCPRV	GaAlAs	640	water clear	36	100	120°	
AP1608SURC	InGaAlP	628	water clear	70	180	120°	
AP1608SURCK	InGaAlP	635	water clear	50	150	120°	
AP1608SEC	InGaAlP	601	water clear	70	200	120°	
AP1608SECK	InGaAlP	601	water clear	50	160	120°	
AP1608YC	GaAsP/GaP	588	water clear	2.6	8	120°	
AP1608SYC	InGaAlP	588	water clear	36	100	120°	
AP1608SYCK	InGaAlP	590	water clear	18	50	120°	
AP1608SGC	GaP	568	water clear	4	15	120°	
AP1608MGC	InGaAlP	568	water clear	18	70	120°	
AP1608CGCK	InGaAlP	570	water clear	15	40	120°	
AP1608MBC	GaN	466	water clear	4	10	120°	
AP1608PBC	InGaN	470	water clear	18	45	120°	
APT1608EC	GaAsP/GaP	625	water clear	4	12	120°	1.6mm x 0.8mm x 0.75mm (0603 Super Thin)
APT1608SRCPRV	GaAlAs	640	water clear	36	100	120°	
APT1608SURC	InGaAlP	628	water clear	70	180	120°	
APT1608SURCK	InGaAlP	635	water clear	50	150	120°	
APT1608SEC	InGaAlP	601	water clear	70	200	120°	
APT1608SECK	InGaAlP	601	water clear	50	160	120°	
APT1608YC	GaAsP/GaP	588	water clear	2.6	8	120°	
APT1608SYC	InGaAlP	588	water clear	36	100	120°	
APT1608SYCK	InGaAlP	590	water clear	18	50	120°	
APT1608SGC	GaP	568	water clear	4	15	120°	
APT1608MGC	InGaAlP	568	water clear	18	70	120°	
APT1608CGCK	InGaAlP	570	water clear	15	40	120°	
APT1608MBC	GaN	466	water clear	4	10	120°	
APT1608PBC	InGaN	470	water clear	18	45	120°	
AP2012EC	GaAsP/GaP	625	water clear	4	12	120°	2.0mm x 1.25mm x 1.1mm (0805)
AP2012SRCPRV	GaAlAs	640	water clear	36	100	120°	
AP2012SURC	InGaAlP	628	water clear	70	180	120°	
AP2012SURCK	InGaAlP	635	water clear	50	150	120°	
AP2012SEC	InGaAlP	601	water clear	70	200	120°	
AP2012SECK	InGaAlP	601	water clear	50	160	120°	
AP2012YC	GaAsP/GaP	588	water clear	2.6	8	120°	
AP2012SYC	InGaAlP	588	water clear	36	100	120°	
AP2012SYCK	InGaAlP	590	water clear	18	50	120°	
AP2012SGC	GaP	568	water clear	4	15	120°	
AP2012MGC	InGaAlP	568	water clear	18	70	120°	
AP2012CGCK	InGaAlP	570	water clear	15	40	120°	
AP2012MBC	GaN	466	water clear	4	10	120°	
AP2012PBC	InGaN	470	water clear	18	45	120°	

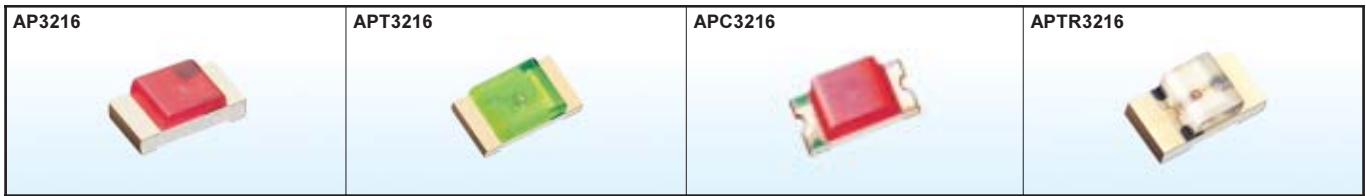
NOTE:
1.AP series custom-made is available upon request.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
APT2012EC	GaAsP/GaP	625	water clear	4	12	120°	2.0mm x 1.25mm x 0.75mm (0805 Super Thin)
APT2012SRCPRV	GaAlAs	640	water clear	36	100	120°	
APT2012SURC	InGaAIP	628	water clear	70	180	120°	
APT2012SURCK	InGaAIP	635	water clear	50	150	120°	
APT2012SEC	InGaAIP	601	water clear	70	200	120°	
APT2012SECK	InGaAIP	601	water clear	50	160	120°	
APT2012YC	GaAsP/GaP	588	water clear	2.6	8	120°	
APT2012SYC	InGaAIP	588	water clear	36	100	120°	
APT2012SYCK	InGaAIP	590	water clear	18	50	120°	
APT2012SGC	GaP	568	water clear	4	15	120°	
APT2012MGC	InGaAIP	568	water clear	18	70	120°	
APT2012CGCK	InGaAIP	570	water clear	15	40	120°	
APT2012MBC	GaN	466	water clear	4	10	120°	
APT2012PBC	InGaN	470	water clear	18	45	120°	
APTC2012EC	GaAsP/GaP	625	water clear	4	12	120°	2.0mm x 1.25mm x 0.75mm (0805 Super Thin)
APTC2012SRC	GaAlAs	640	water clear	36	100	120°	
APTC2012SURC	InGaAIP	628	water clear	70	180	120°	
APTC2012SURCK	InGaAIP	635	water clear	50	150	120°	
APTC2012SEC	InGaAIP	601	water clear	70	200	120°	
APTC2012SECK	InGaAIP	601	water clear	50	160	120°	
APTC2012YC	GaAsP/GaP	588	water clear	2.6	8	120°	
APTC2012SYC	InGaAIP	588	water clear	36	100	120°	
APTC2012SYCK	InGaAIP	590	water clear	18	50	120°	
APTC2012SGC	GaP	568	water clear	4	15	120°	
APTC2012MGC	InGaAIP	568	water clear	18	70	120°	
APTC2012CGCK	InGaAIP	570	water clear	15	40	120°	
APTC2012MBC	GaN	466	water clear	4	10	120°	
APTC2012PBC	InGaN	470	water clear	18	45	120°	
APE2712EC	GaAsP/GaP	625	water clear	10	20	120°	2.7mm x 1.2mm x 1.3mm
APE2712SRC	InGaAIP	628	water clear	70	180	120°	
APE2712SURCK	InGaAIP	635	water clear	70	150	120°	
APE2712SEC	InGaAIP	601	water clear	110	250	120°	
APE2712SECK	InGaAIP	601	water clear	70	200	120°	
APE2712YC	GaAsP/GaP	588	water clear	4	8	120°	
APE2712SYC	InGaAIP	588	water clear	50	100	120°	
APE2712SYCK	InGaAIP	590	water clear	36	80	120°	
APE2712SGC	GaP	568	water clear	7	20	120°	
APE2712MGC	InGaAIP	568	water clear	36	70	120°	
APE2712CGCK	InGaAIP	570	water clear	15	45	120°	
APE2712MBC	GaN	466	water clear	4	12	120°	
APE2712PBC	InGaN	470	water clear	18	50	120°	
AP23EC-F	GaAsP/GaP	625	water clear	7	20	120°	
AP23SRC-F	GaAlAs	640	water clear	36	100	120°	
AP23SURC-F	InGaAIP	628	water clear	110	250	120°	
AP23SURCK-F	InGaAIP	635	water clear	50	150	120°	
AP23SEC-F	InGaAIP	601	water clear	70	200	120°	
AP23SECK-F	InGaAIP	601	water clear	50	160	120°	
AP23YC-F	GaAsP/GaP	588	water clear	2.6	8	120°	
AP23SYC-F	InGaAIP	588	water clear	50	100	120°	
AP23SYCK-F	InGaAIP	590	water clear	18	60	120°	
AP23SGC-F	GaP	568	water clear	7	20	120°	
AP23MGC-F	InGaAIP	568	water clear	36	70	120°	
AP23CGCK-F	InGaAIP	570	water clear	18	60	120°	
AP23MBC-F	GaN	466	water clear	4	10	120°	
AP23PBC-F	InGaN	470	water clear	18	45	120°	
AP23ESGC	GaAsP/GaP	625	water clear	7	20	120°	
	GaP	568	water clear	4	15	120°	
AP23YSGC	GaAsP/GaP	588	water clear	2.6	8	120°	
	GaP	568	water clear	4	15	120°	

NOTE:

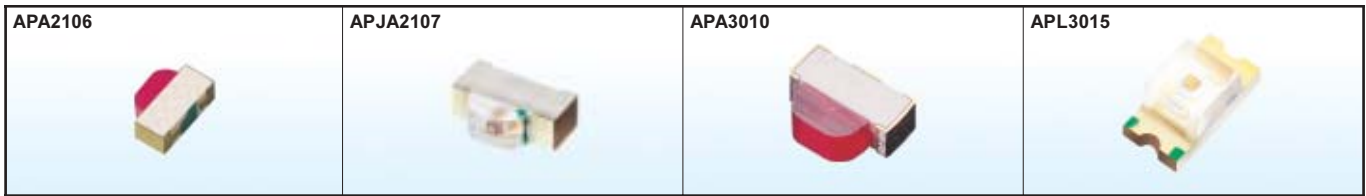
1.AP series custom-made is available upon request.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
AP3216EC	GaAsP/GaP	625	water clear	4	12	120°	3.2mm x 1.6mm x 1.1mm (1206)
AP3216SRCPRV	GaAlAs	640	water clear	36	80	120°	
AP3216SURC	InGaAlP	628	water clear	70	180	120°	
AP3216SURCK	InGaAlP	635	water clear	50	150	120°	
AP3216SEC	InGaAlP	601	water clear	70	200	120°	
AP3216SECK	InGaAlP	601	water clear	50	160	120°	
AP3216YC	GaAsP/GaP	588	water clear	2.6	8	120°	
AP3216SYC	InGaAlP	588	water clear	36	100	120°	
AP3216SYCK	InGaAlP	590	water clear	18	50	120°	
AP3216SGC	GaP	568	water clear	4	15	120°	
AP3216MGC	InGaAlP	568	water clear	18	70	120°	
AP3216CGCK	InGaAlP	570	water clear	18	50	120°	
AP3216MBC	GaN	466	water clear	4	10	120°	
AP3216PBC	InGaN	470	water clear	18	45	120°	
APT3216EC	GaAsP/GaP	625	water clear	4	12	120°	3.2mm x 1.6mm x 0.75mm (1206 Super Thin)
APT3216SRCPRV	GaAlAs	640	water clear	36	80	120°	
APT3216SURC	InGaAlP	628	water clear	70	180	120°	
APT3216SURCK	InGaAlP	635	water clear	50	150	120°	
APT3216SEC	InGaAlP	601	water clear	70	200	120°	
APT3216SECK	InGaAlP	601	water clear	50	160	120°	
APT3216YC	GaAsP/GaP	588	water clear	2.6	8	120°	
APT3216SYC	InGaAlP	588	water clear	36	100	120°	
APT3216SYCK	InGaAlP	590	water clear	18	50	120°	
APT3216SGC	GaP	568	water clear	4	15	120°	
APT3216MGC	InGaAlP	568	water clear	18	70	120°	
APT3216CGCK	InGaAlP	570	water clear	18	50	120°	
APT3216MBC	GaN	466	water clear	4	10	120°	
APT3216PBC	InGaN	470	water clear	18	45	120°	
APC3216EC	GaAsP/GaP	625	water clear	4	12	120°	3.2mm x 1.6mm x 1.1mm (1206)
APC3216SRCPRV	GaAlAs	640	water clear	36	80	120°	
APC3216SURC	InGaAlP	628	water clear	70	180	120°	
APC3216SURCK	InGaAlP	635	water clear	50	150	120°	
APC3216SEC	InGaAlP	601	water clear	70	200	120°	
APC3216SECK	InGaAlP	601	water clear	50	160	120°	
APC3216YC	GaAsP/GaP	588	water clear	2.6	8	120°	
APC3216SYC	InGaAlP	588	water clear	36	100	120°	
APC3216SYCK	InGaAlP	590	water clear	18	50	120°	
APC3216SGC	GaP	568	water clear	4	15	120°	
APC3216MGC	InGaAlP	568	water clear	18	70	120°	
APC3216CGCK	InGaAlP	570	water clear	18	50	120°	
APC3216MBC	GaN	466	water clear	4	10	120°	
APC3216PBC	InGaN	470	water clear	18	45	120°	
APTR3216EC	GaAsP/GaP	625	water clear	4	12	120°	3.2mm x 1.6mm x 1.05mm (1206 Reverse Mount)
APTR3216SRCPRV	GaAlAs	640	water clear	36	80	120°	
APTR3216SURC	InGaAlP	628	water clear	70	180	120°	
APTR3216SURCK	InGaAlP	635	water clear	50	150	120°	
APTR3216SEC	InGaAlP	601	water clear	70	200	120°	
APTR3216SECK	InGaAlP	601	water clear	50	160	120°	
APTR3216YC	GaAsP/GaP	588	water clear	2.6	8	120°	
APTR3216SYC	InGaAlP	588	water clear	36	100	120°	
APTR3216SYCK	InGaAlP	590	water clear	18	50	120°	
APTR3216SGC	GaP	568	water clear	4	15	120°	
APTR3216MGC	InGaAlP	568	water clear	18	70	120°	
APTR3216CGCK	InGaAlP	570	water clear	18	50	120°	
APTR3216MBC	GaN	466	water clear	4	10	120°	
APTR3216PBC	InGaN	470	water clear	18	45	120°	

NOTE:

1.AP series custom-made is available upon request.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
APA2106EC	GaAsP/GaP	625	water clear	4	15	120°	2.1mm x 0.6mm x 1.0mm (0802 Right Angle) Units: mm(inch) Tolerance: ±0.1(0.004)
APA2106SRCPRV	GaAlAs	640	water clear	50	100	120°	
APA2106SURC	InGaAlP	628	water clear	70	250	120°	
APA2106SURCK	InGaAlP	635	water clear	70	150	120°	
APA2106SEC	InGaAlP	601	water clear	70	200	120°	
APA2106SECK	InGaAlP	601	water clear	50	145	120°	
APA2106YC	GaAsP/GaP	588	water clear	2.6	7	120°	
APA2106SYC	InGaAlP	588	water clear	36	100	120°	
APA2106SYCK	InGaAlP	590	water clear	36	60	120°	
APA2106SGC	GaP	568	water clear	4	14	120°	
APA2106MGC	InGaAlP	568	water clear	36	65	120°	
APA2106CGCK	InGaAlP	570	water clear	15	50	120°	
APA2106MBC	GaN	466	water clear	4	10	120°	
APA2106PBC	InGaN	470	water clear	18	40	120°	
APJA2107EC	GaAsP/GaP	625	water clear	4	12	120°	2.1mm x 0.7mm x 1.3mm (0802 Right Angle) Units: mm(inch) Tolerance: ±0.15(0.006)
APJA2107SRCPRV	GaAlAs	640	water clear	36	70	120°	
APJA2107SURC	InGaAlP	628	water clear	70	150	120°	
APJA2107SURCK	InGaAlP	635	water clear	50	100	120°	
APJA2107SEC	InGaAlP	601	water clear	70	250	120°	
APJA2107SECK	InGaAlP	601	water clear	50	200	120°	
APJA2107YC	GaAsP/GaP	588	water clear	2.6	8	120°	
APJA2107SYC	InGaAlP	588	water clear	36	60	120°	
APJA2107SYCK	InGaAlP	590	water clear	18	60	120°	
APJA2107SGC	GaP	568	water clear	2.6	10	120°	
APJA2107MGC	InGaAlP	568	water clear	36	65	120°	
APJA2107CGCK	InGaAlP	570	water clear	18	50	120°	
APJA2107MBC	GaN	466	water clear	4	10	120°	
APJA2107PBC	InGaN	470	water clear	18	40	120°	
APA3010EC	GaAsP/GaP	625	water clear	4	12	120°	3.0mm x 1.0mm x 2.0mm (1104 Right Angle) Units: mm(inch) Tolerance: ±0.15(0.006)
APA3010SRCPRV	GaAlAs	640	water clear	18	60	120°	
APA3010SURC	InGaAlP	628	water clear	50	120	120°	
APA3010SURCK	InGaAlP	635	water clear	50	100	120°	
APA3010SEC	InGaAlP	601	water clear	70	300	120°	
APA3010SECK	InGaAlP	601	water clear	70	200	120°	
APA3010YC	GaAsP/GaP	588	water clear	2.6	5	120°	
APA3010SYC	InGaAlP	588	water clear	36	60	120°	
APA3010SYCK	InGaAlP	590	water clear	18	50	120°	
APA3010SGC	GaP	568	water clear	2.6	12	120°	
APA3010MGC	InGaAlP	568	water clear	36	80	120°	
APA3010CGCK	InGaAlP	570	water clear	18	60	120°	
APA3010MBC	GaN	466	water clear	4	10	120°	
APA3010PBC	InGaN	470	water clear	18	45	120°	
APL3015EC	GaAsP/GaP	625	water clear	4	20	70°	3.0mm x 1.5mm x 1.4mm (1106) Units: mm(inch) Tolerance: ±0.2(0.008)
APL3015SRCPRV	GaAlAs	640	water clear	36	80	70°	
APL3015SURC	InGaAlP	628	water clear	110	280	70°	
APL3015SURCK	InGaAlP	635	water clear	70	240	70°	
APL3015SEC	InGaAlP	601	water clear	180	500	70°	
APL3015SECK	InGaAlP	601	water clear	70	300	70°	
APL3015YC	GaAsP/GaP	588	water clear	2.6	10	70°	
APL3015SYC	InGaAlP	588	water clear	36	150	70°	
APL3015SYCK	InGaAlP	590	water clear	36	100	70°	
APL3015SGC	GaP	568	water clear	4	20	70°	
APL3015MGC	InGaAlP	568	water clear	70	140	70°	
APL3015CGCK	InGaAlP	570	water clear	36	90	70°	
APL3015MBC	GaN	466	water clear	7	20	70°	
APL3015PBC	InGaN	470	water clear	18	75	70°	

NOTE:

1.AP series custom-made is available upon request.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		

APTD3216EC	GaAsP/GaP	625	water clear	10	50	40°	3.2mm x 1.6mm x 1.8mm (1206 Dome Lens)
APTD3216SRCPRV	GaAlAs	640	water clear	110	300	50°	
APTD3216SURC	InGaAlP	628	water clear	280	600	50°	
APTD3216SURCK	InGaAlP	635	water clear	180	500	50°	
APTD3216SEC	InGaAlP	601	water clear	380	1200	50°	
APTD3216SECK	InGaAlP	601	water clear	280	700	50°	
APTD3216YC	GaAsP/GaP	588	water clear	4	30	40°	
APTD3216SYC	InGaAlP	588	water clear	110	300	50°	
APTD3216SYCK	InGaAlP	590	water clear	70	250	50°	
APTD3216SGC	GaP	568	water clear	7	20	40°	
APTD3216MGC	InGaAlP	568	water clear	110	350	50°	
APTD3216CGCK	InGaAlP	570	water clear	70	200	50°	
APTD3216MBC	GaN	466	water clear	18	45	40°	
APTD3216PBC	InGaN	470	water clear	70	220	50°	

APD3224EC	GaAsP/GaP	625	water clear	36	70	20°	3.2mm x 2.4mm x 2.4mm (Dome Lens)
APD3224SURC	InGaAlP	628	water clear	650	1200	20°	
APD3224SURCK	InGaAlP	635	water clear	480	1000	20°	
APD3224SEC	InGaAlP	601	water clear	700	2000	20°	
APD3224SECK	InGaAlP	601	water clear	650	1300	20°	
APD3224YC	GaAsP/GaP	588	water clear	10	40	20°	
APD3224SYC	InGaAlP	588	water clear	180	700	20°	
APD3224SYCK	InGaAlP	590	water clear	110	600	20°	
APD3224SGC	GaP	568	water clear	18	70	20°	
APD3224MGC	InGaAlP	568	water clear	280	550	20°	
APD3224CGCK	InGaAlP	570	water clear	180	550	20°	
APD3224MBC	GaN	466	water clear	36	80	20°	
APD3224PBC	InGaN	470	water clear	180	450	20°	

APED3528EC	GaAsP/GaP	625	water clear	18	50	40°	3.5mm x 2.8mm x 3.2mm
APED3528SRC	GaAlAs	640	water clear	70	200	40°	
APED3528SURC	InGaAlP	628	water clear	110	500	40°	
APED3528SURCK	InGaAlP	635	water clear	110	450	40°	
APED3528SEC	InGaAlP	601	water clear	380	700	40°	
APED3528SECK	InGaAlP	601	water clear	280	550	40°	
APED3528YC	GaAsP/GaP	588	water clear	7	20	40°	
APED3528SYC	InGaAlP	588	water clear	70	250	40°	
APED3528SYCK	InGaAlP	590	water clear	70	200	40°	
APED3528SGC	GaP	568	water clear	18	40	40°	
APED3528SGT	GaP	568	green transparent	18	50	40°	
APED3528MGC	InGaAlP	568	water clear	70	250	40°	
APED3528VGC	InGaN	525	water clear	110	300	40°	
APED3528VGC/E	InGaN	525	water clear	280	400	40°	
APED3528MBC	GaN	466	water clear	7	40	40°	
APED3528MBCK	GaN	466	water clear	7	30	40°	
APED3528PBC	InGaN	470	water clear	50	150	40°	
APED3528PBC/E	InGaN	470	water clear	70	200	40°	

NOTE:
1.AP series custom-made is available upon request.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		

APED3820EC	GaAsP/GaP	625	water clear	18	40	60° (H) 35° (V)	3.8mm x 2.0mm x 3.2mm (Dome Lens)
APED3820SRC	GaAlAs	640	water clear	110	240	60° (H) 35° (V)	
APED3820SURC	InGaAlP	628	water clear	180	500	60° (H) 35° (V)	
APED3820SURCK	InGaAlP	635	water clear	180	450	60° (H) 35° (V)	
APED3820SEC	InGaAlP	601	water clear	480	800	60° (H) 35° (V)	
APED3820SECK	InGaAlP	601	water clear	280	600	60° (H) 35° (V)	
APED3820YC	GaAsP/GaP	588	water clear	7	20	60° (H) 35° (V)	
APED3820SYC	InGaAlP	588	water clear	110	250	60° (H) 35° (V)	
APED3820SYCK	InGaAlP	590	water clear	70	200	60° (H) 35° (V)	
APED3820SGC	GaP	568	water clear	10	40	60° (H) 35° (V)	
APED3820MGC	InGaAlP	568	water clear	70	250	60° (H) 35° (V)	
APED3820CGCK	InGaAlP	570	water clear	70	170	60° (H) 35° (V)	
APED3820MBC	GaN	466	water clear	10	25	60° (H) 35° (V)	
APED3820PBC	InGaN	470	water clear	50	150	60° (H) 35° (V)	

APD2520EC03	GaAsP/GaP	625	water clear	10	60	20°	4.5mm x 2.0mm x 2.8mm
APD2520SURC03	InGaAlP	628	water clear	280	700	20°	
APD2520SURCK03	InGaAlP	635	water clear	180	650	20°	
APD2520SEC03	InGaAlP	601	water clear	380	1300	20°	
APD2520SECK03	InGaAlP	601	water clear	380	1200	20°	
APD2520YC03	GaAsP/GaP	588	water clear	10	25	20°	
APD2520SYC03	InGaAlP	588	water clear	110	450	20°	
APD2520SYCK03	InGaAlP	590	water clear	70	250	20°	
APD2520SGC03	GaP	568	water clear	36	90	20°	
APD2520MGC03	InGaAlP	568	water clear	110	400	20°	
APD2520CGCK03	InGaAlP	570	water clear	70	300	20°	
APD2520MBC03	GaN	466	water clear	10	40	20°	
APD2520PBC03	InGaN	470	water clear	70	200	20°	

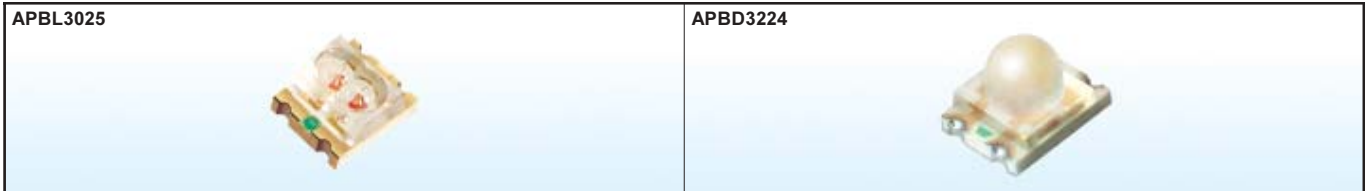
APTB1612ESGC	GaAsP/GaP	625	water clear	4	12	120°	1.6mm x 1.25mm x 0.65mm (0605 Bi-Color)
	GaP	568		2.6	12		
APTB1612SURKSGC	InGaAlP	635	water clear	70	150	120°	
	GaP	568		2.6	12		
APTB1612SYKCGKC	InGaAlP	590	water clear	18	50	120°	
	InGaAlP	570		18	50		
APTB1612SGNC	GaP	568	water clear	2.6	12	120°	
	GaAsP/GaP	610		4	12		
APTB1612PBVGKC	InGaN	470	water clear	18	60	120°	
	InGaN	525		50	140		

NOTE:
1.AP series custom-made is available upon request.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension	
				Min.	Typ.			
APTB1615ESGC	GaAsP/GaP	625	water clear	4	12	120°	<p>1.6mm x 1.5mm x 0.7mm (0606 Bi-Color)</p>	
	GaP	568		2.6	12			
APTB1615SURKSGC	InGaAlP	635	water clear	70	150	120°		
	GaP	568		2.6	12			
APTB1615EYC	GaAsP/GaP	625	water clear	4	12	120°		
	GaAsP/GaP	588		2.6	8			
APTB1615YSGC	GaAsP/GaP	588	water clear	2.6	8	120°		
	GaP	568		2.6	12			
APTB1615SYKCGKC	InGaAlP	590	water clear	18	50	120°		
	InGaAlP	570		18	50			
APTB1615SGNC	GaP	568	water clear	2.6	12	120°		
	GaAsP/GaP	610		4	12			
APTB1615PBGK	InGaN	470	water clear	18	60	120°		
	InGaN	525		50	140			
APBA3010ESGC	GaAsP/GaP	625	water clear	4	12	140°		<p>3.0mm x 1.0mm x 2mm (1104 Right Angle, Bi-Color)</p>
	GaP	568		2.6	12			
APBA3010SURKSGC	InGaAlP	635	water clear	110	200	140°		
	GaP	568		2.6	12			
APBA3010EYC	GaAsP/GaP	625	water clear	4	12	140°		
	GaAsP/GaP	588		2.6	6			
APBA3010YSGC	GaAsP/GaP	588	water clear	2.6	6	140°		
	GaP	568		2.6	12			
APBA3010SYKCGKC	InGaAlP	590	water clear	36	80	140°		
	InGaAlP	570		18	50			
APBA3010SGNC	GaP	568	water clear	2.6	12	140°		
	GaAsP/GaP	610		4	12			
APBA3010PBGK	InGaN	470	water clear	18	60	140°		
	InGaN	525		36	100			
APB3025ESGC	GaAsP/GaP	625	water clear	4	12	120°	<p>3.0mm x 2.5mm x 1.1mm (1109 Bi-Color)</p>	
	GaP	568		2.6	12			
APB3025EYC	GaAsP/GaP	625	water clear	4	12	120°		
	GaAsP/GaP	588		2.6	8			
APB3025NSGC	GaAsP/GaP	610	water clear	4	12	120°		
	GaP	568		2.6	12			
APB3025SRSGCPRV	GaAlAs	640	water clear	18	80	120°		
	GaP	568		2.6	12			
APB3025SRQGCPRV	GaAlAs	640	water clear	18	80	120°		
	GaP	565		2.6	12			
APB3025SRPGCPRV	GaAlAs	640	water clear	18	80	120°		
	GaP	555		1.6	5			
APB3025SURKCGKC	InGaAlP	635	water clear	50	160	120°		
	InGaAlP	570		10	40			
APB3025YSGC	GaAsP/GaP	588	water clear	2.6	8	120°		
	GaP	568		2.6	12			

NOTE:
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Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
APBL3025ESGC	GaAsP/GaP	625	water clear	7	20	100°	3.0mm x 2.5mm x 1.4mm (1109 Bi-Color)
	GaP	568		7	20		
APBL3025EYC	GaAsP/GaP	625	water clear	7	20	100°	
	GaAsP/GaP	588		4	15		
APBL3025NSGC	GaAsP/GaP	610	water clear	7	20	100°	
	GaP	568		7	20		
APBL3025SRSGCPR	GaAlAs	640	water clear	36	100	100°	
	GaP	568		7	20		
APBL3025SRQGCPR	GaAlAs	640	water clear	36	100	100°	
	GaP	565		7	20		
APBL3025SRPGCPR	GaAlAs	640	water clear	36	100	100°	
	GaP	555		2.6	8		
APBL3025SURKCGK	InGaAlP	635	water clear	110	300	100°	
	InGaAlP	570		18	80		
APBL3025YSGC	GaAsP/GaP	588	water clear	4	15	100°	
	GaP	568		7	20		

APBD3224ESGC	GaAsP/GaP	625	water clear	18	60	20°	3.2mm x 2.4mm x 2.4mm (Dome Lens)
	GaP	568		10	40		
APBD3224SURKSGC	InGaAlP	635	water clear	70	350	20°	
	GaP	568		10	40		
APBD3224SYKCGKC	InGaAlP	590	water clear	36	150	20°	
	InGaAlP	570		18	120		
APBD3224SGNC	GaP	568	water clear	10	40	20°	
	GaAsP/GaP	610		18	60		
APBD3224PBVGKC	InGaN	470	water clear	36	100	20°	
	InGaN	525		50	200		

NOTE:
1.AP series custom-made is available upon request.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		

APTF3216PBVGSUK	InGaN	470		50	100		3.2mm x 1.6mm x 0.75mm (1206 Full Color) Units : mm(inch) Tolerance : ±0.2(0.008)
	InGaN	525	water clear	70	150	120°	
	InGaAlP	635		70	150		

APF3236SRSGMBCP	GaAlAs	640		36	70		3.2mm x 3.6mm x 1.1mm (Full Color) Units : mm(inch) Tolerance : ±0.2(0.008)
	GaP	568	water clear	2.6	12	120°	
	GaN	466		1.6	8		
APF3236SURKVGPB	InGaAlP	635		70	150		 Units : mm(inch) Tolerance : ±0.2(0.008)
	InGaN	525	water clear	50	100	120°	
	InGaN	470		18	60		
APF3236SUKMGKPB	InGaAlP	635		70	150		 Units : mm(inch) Tolerance : ±0.2(0.008)
	InGaAlP	570	water clear	18	60	120°	
	InGaN	470		18	60		

APHK1608SURC	InGaAlP	628	water clear	110	280	90°	1.6mm x 0.8mm x 0.7mm (0603) Units : mm(inch) Tolerance : ±0.1(0.004)
APHK1608SURCK	InGaAlP	635	water clear	70	220	90°	
APHK1608SEC	InGaAlP	601	water clear	110	280	90°	
APHK1608SECK	InGaAlP	601	water clear	70	250	90°	
APHK1608SYC	InGaAlP	588	water clear	50	100	90°	
APHK1608SYCK	InGaAlP	590	water clear	36	80	90°	
APHK1608MGC	InGaAlP	568	water clear	36	70	90°	
APHK1608MGCK	InGaAlP	570	water clear	18	60	90°	
APHK1608TGC	InGaN	505	water clear	70	150	90°	
APHK1608VGC	InGaN	525	water clear	70	180	90°	
APHK1608MBC	GaN	466	water clear	4	14	90°	
APHK1608PBC	InGaN	470	water clear	36	70	90°	
APHK1608MWC	GaN	-	water clear	10	30	90°	
APHK1608PWC	InGaN	-	water clear	70	150	90°	

NOTE:
1.AP series custom-made is available upon request.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
APTK2012SURC	InGaAlP	628	water clear	110	250	100°	2.0mm x 1.25mm x 0.75mm (0805)
APTK2012SURCK	InGaAlP	635	water clear	70	200	100°	
APTK2012SEC	InGaAlP	601	water clear	110	280	100°	
APTK2012SECK	InGaAlP	601	water clear	70	230	100°	
APTK2012SYC	InGaAlP	588	water clear	50	100	100°	
APTK2012SYCK	InGaAlP	590	water clear	36	80	100°	
APTK2012MGC	InGaAlP	568	water clear	36	80	100°	
APTK2012MGCK	InGaAlP	570	water clear	18	70	100°	
APTK2012TGC	InGaN	505	water clear	70	150	100°	
APTK2012VGC	InGaN	525	water clear	70	200	100°	
APTK2012MBC	GaN	466	water clear	4	14	100°	
APTK2012PBC	InGaN	470	water clear	36	60	100°	
APTK2012MWC	GaN	-	water clear	18	40	100°	
APTK2012PWC	InGaN	-	water clear	110	220	100°	
				X=0.33, Y=0.34			
				X=0.33, Y=0.34			Units : mm(inch) Tolerance : ±0.1(0.004)
APKA2810SURC	InGaAlP	628	water clear	70	220	90°	2.8mm x 1.0mm x 1.2mm
APKA2810SURCK	InGaAlP	635	water clear	50	170	90°	
APKA2810SEC	InGaAlP	601	water clear	110	300	90°	
APKA2810SECK	InGaAlP	601	water clear	70	180	90°	
APKA2810SYC	InGaAlP	588	water clear	50	100	90°	
APKA2810SYCK	InGaAlP	590	water clear	36	70	90°	
APKA2810MGC	InGaAlP	568	water clear	18	70	90°	
APKA2810MGCK	InGaAlP	570	water clear	10	50	90°	
APKA2810TGC	InGaN	505	water clear	50	100	90°	
APKA2810VGC	InGaN	525	water clear	70	200	90°	
APKA2810MBC	GaN	466	water clear	4	12	90°	
APKA2810PBC	InGaN	470	water clear	36	70	90°	
APKA2810MWC	GaN	-	water clear	10	30	90°	
APKA2810PWC	InGaN	-	water clear	50	190	90°	
				X=0.33, Y=0.34			
				X=0.33, Y=0.34			Units : mm(inch) Tolerance : ±0.25(0.01)
APK3020SURC	InGaAlP	628	water clear	70	230	120°	3.0mm x 2.0mm x 1.3mm(1108)
APK3020SURCK	InGaAlP	635	water clear	50	200	120°	
APK3020SEC	InGaAlP	601	water clear	110	300	120°	
APK3020SECK	InGaAlP	601	water clear	70	150	120°	
APK3020SYC	InGaAlP	588	water clear	18	95	120°	
APK3020SYCK	InGaAlP	590	water clear	18	75	120°	
APK3020MGC	InGaAlP	568	water clear	36	80	120°	
APK3020MGCK	InGaAlP	570	water clear	18	55	120°	
APK3020TGC	InGaN	505	water clear	70	150	120°	
APK3020VGC	InGaN	525	water clear	70	150	120°	
APK3020MBC	GaN	466	water clear	2.6	15	120°	
APK3020PBC	InGaN	470	water clear	18	60	120°	
APK3020MWC	GaN	-	water clear	10	35	120°	
APK3020PWC	InGaN	-	water clear	50	100	120°	
				X=0.33, Y=0.34			
				X=0.33, Y=0.34			Units : mm(inch) Tolerance : ±0.2(0.008)

NOTE:
1.AP series custom-made is available upon request.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.		
APK3216SURC	InGaAlP	628	water clear	110	250	90°	3.2mm x 1.6mm x 1.1mm(1206)
APK3216SURCK	InGaAlP	635	water clear	70	200	90°	
APK3216SEC	InGaAlP	601	water clear	110	300	90°	
APK3216SECK	InGaAlP	601	water clear	70	250	90°	
APK3216SYC	InGaAlP	588	water clear	50	110	90°	
APK3216SYCK	InGaAlP	590	water clear	36	90	90°	
APK3216MGC	InGaAlP	568	water clear	50	120	90°	
APK3216MGCK	InGaAlP	570	water clear	36	80	90°	
APK3216TGC	InGaN	505	water clear	70	180	90°	
APK3216VGC	InGaN	525	water clear	70	220	90°	
APK3216MBC	GaN	466	water clear	7	18	90°	
APK3216PBC	InGaN	470	water clear	36	70	90°	
APK3216MWC	GaN	-	water clear	18	50	90°	
APK3216PWC	InGaN	-	water clear	X=0.33, Y=0.34		90°	
				110	280		
				X=0.33, Y=0.34		Units : mm(inch) Tolerance : ±0.2(0.008)	

APEKA3224SURC	InGaAlP	628	water clear	110	280	90°	3.2mm x 2.4mm x 2.4mm
APEKA3224SURCK	InGaAlP	635	water clear	110	250	90°	
APEKA3224SEC	InGaAlP	601	water clear	110	300	90°	
APEKA3224SECK	InGaAlP	601	water clear	110	250	90°	
APEKA3224SYC	InGaAlP	588	water clear	50	120	90°	
APEKA3224SYCK	InGaAlP	590	water clear	50	90	90°	
APEKA3224SGC	GaP	568	water clear	7	20	90°	
APEKA3224MGC	InGaAlP	568	water clear	50	110	90°	
APEKA3224CGCK	InGaAlP	570	water clear	36	60	90°	
APEKA3224MBC	GaN	466	water clear	4	15	90°	
APEKA3224PBC	InGaN	470	water clear	50	100	90°	
						Units : mm(inch) Tolerance : ±0.2(0.008)	

APK3520SURC	InGaAlP	628	water clear	70	230	120°	3.5mm x 2.0mm x 1.3mm (1308)
APK3520SURCK	InGaAlP	635	water clear	50	200	120°	
APK3520SEC	InGaAlP	601	water clear	110	300	120°	
APK3520SECK	InGaAlP	601	water clear	70	150	120°	
APK3520SYC	InGaAlP	588	water clear	50	100	120°	
APK3520SYCK	InGaAlP	590	water clear	50	85	120°	
APK3520MGC	InGaAlP	568	water clear	50	150	120°	
APK3520MGCK	InGaAlP	570	water clear	18	55	120°	
APK3520TGC	InGaN	505	water clear	70	150	120°	
APK3520VGC	InGaN	525	water clear	70	120	120°	
APK3520MBC	GaN	466	water clear	3	15	120°	
APK3520PBC	InGaN	470	water clear	18	60	120°	
APK3520MWC	GaN	-	water clear	10	35	120°	
APK3520PWC	InGaN	-	water clear	X=0.33, Y=0.34		120°	
				50	100		
				X=0.33, Y=0.34		Units : mm(inch) Tolerance : ±0.2(0.008)	

NOTE:
1.AP series custom-made is available upon request.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
APJKA4008SURC	InGaAlP	628	water clear	70	220	90°	4.0mm x 0.8mm x 1.4mm
APJKA4008SEC	InGaAlP	601	water clear	110	250	90°	
APJKA4008SYC	InGaAlP	588	water clear	50	100	90°	
APJKA4008MGC	InGaAlP	568	water clear	36	100	90°	
APJKA4008MGCK	InGaAlP	570	water clear	18	60	90°	
APJKA4008TGC	InGaN	505	water clear	50	150	90°	
APJKA4008VGC	InGaN	525	water clear	70	200	90°	
APJKA4008MBC	GaN	466	water clear	4	15	90°	
APJKA4008PBC	InGaN	470	water clear	36	80	90°	
APJKA4008MWC	GaN	-	water clear	10	40	90°	
APJKA4008PWC	InGaN	-	water clear	70	200	90°	X=0.33, Y=0.34
APEKA4030SURC	InGaAlP	628	water clear	70	250	90°	4.0mm x 3.0mm x 2.65mm
APEKA4030SEC	InGaAlP	601	water clear	110	320	90°	
APEKA4030SYC	InGaAlP	588	water clear	50	120	90°	
APEKA4030MGC	InGaAlP	568	water clear	36	100	90°	
APEKA4030TGC	InGaN	505	water clear	50	100	90°	
APEKA4030VGC	InGaN	525	water clear	70	220	90°	
APEKA4030PBC	InGaN	470	water clear	36	80	90°	
APKA4110SURC	InGaAlP	628	water clear	70	220	90°	4.1mm x 1.0mm x 1.52mm
APKA4110SEC	InGaAlP	601	water clear	70	250	90°	
APKA4110SYC	InGaAlP	588	water clear	50	100	90°	
APKA4110MGC	InGaAlP	568	water clear	36	100	90°	
APKA4110MGCK	InGaAlP	570	water clear	18	60	90°	
APKA4110TGC	InGaN	505	water clear	36	100	90°	
APKA4110VGC	InGaN	525	water clear	50	150	90°	
APKA4110MBC	GaN	466	water clear	4	12	90°	
APKA4110PBC	InGaN	470	water clear	10	50	90°	
APKA4110MWC	GaN	-	water clear	10	30	90°	
APKA4110PWC	InGaN	-	water clear	50	150	90°	X=0.33, Y=0.34

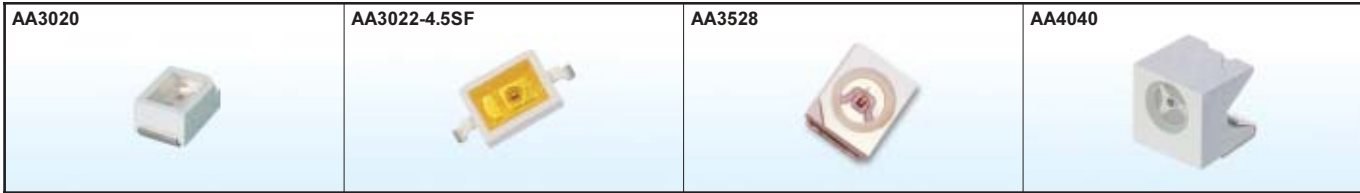
Units : mm (inch)
Tolerance : ±0.25 (0.01)

NOTE:
1.AP series custom-made is available upon request.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension	
				Min.	Typ.			
APKB3025ESGC	GaAsP/GaP	625	water clear	10	20	120°	<p>3.0mm x 2.5mm x 1.3mm (1109 Bi-Color)</p>	
	GaP	568		10	20			
APKB3025YSGC	GaAsP/GaP	588	water clear	2.6	8	120°		
	GaP	568		10	20			
APKB3025SURKMGK	InGaAlP	635	water clear	70	150	120°		
	InGaAlP	570		10	50			
APKB3025SURKSYK	InGaAlP	635	water clear	70	150	120°		
	InGaAlP	590		18	50			
APKF3030SEEVGBE	InGaAlP	621	water clear	180	400	100°		<p>3.0mm x 3.0mm x 1.8mm (Full Color)</p>
	InGaN	525		110	250			
	InGaN	470		50	120			
APKF3030SUVGBEC	InGaAlP	628	water clear	110	220	100°		
	InGaN	525		110	250			
	InGaN	470		50	120			
APKF3030SEXXC/E	InGaAlP	621	water clear	180	400	100°		
APKF3030VGXXC	InGaN	525	water clear	110	250	100°		
APKF3030PBXXC	InGaN	470	water clear	18	60	100°		
APKF3030PWXXC	InGaN	-	water clear	110	200	100°	<p>X=0.33, Y=0.34</p>	

NOTE:
1.AP series custom-made is available upon request.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		

AA3020EC	GaAsP/GaP	625	water clear	7	20	90°	<p>3.0mm x 2.0mm (1208)</p>
AA3020SRC	GaAlAs	640	water clear	36	120	90°	
AA3020SURC	InGaAlP	628	water clear	110	230	90°	
AA3020SURCK	InGaAlP	635	water clear	70	200	90°	
AA3020SEC	InGaAlP	601	water clear	100	300	90°	
AA3020SECK	InGaAlP	601	water clear	70	150	90°	
AA3020YC	GaAsP/GaP	588	water clear	4	15	90°	
AA3020SYC	InGaAlP	588	water clear	50	120	90°	
AA3020SYCK	InGaAlP	590	water clear	36	100	90°	
AA3020SGC	GaP	568	water clear	7	30	90°	
AA3020MGC	InGaAlP	568	water clear	36	80	90°	
AA3020MBC	GaN	466	water clear	2.6	15	90°	
AA3020MBCK	GaN	466	water clear	2.6	7	90°	
AA3020PBC	InGaN	470	water clear	18	60	90°	

AA3022EC-4.5SF	GaAsP/GaP	625	water clear	7	30	90°	<p>3.0mm x 2.2mm</p>
AA3022SRC-4.5SF	GaAlAs	640	water clear	36	150	90°	
AA3022YC-4.5SF	GaAsP/GaP	588	water clear	4	10	90°	
AA3022SYC-4.5SF	InGaAlP	588	water clear	50	120	90°	
AA3022SGC-4.5SF	GaP	568	water clear	7	20	90°	

AA3528EC	GaAsP/GaP	625	water clear	7	30	120°	<p>3.5mm x 2.8mm</p>
AA3528SRC	GaAlAs	640	water clear	50	150	120°	
AA3528SURC	InGaAlP	628	water clear	110	230	120°	
AA3528SURCK	InGaAlP	635	water clear	70	200	120°	
AA3528SEC	InGaAlP	601	water clear	180	350	120°	
AA3528SECK	InGaAlP	601	water clear	70	300	120°	
AA3528YC	GaAsP/GaP	588	water clear	4	15	120°	
AA3528SYC	InGaAlP	588	water clear	36	120	120°	
AA3528SYCK	InGaAlP	590	water clear	36	100	120°	
AA3528SGC	GaP	568	water clear	10	25	120°	
AA3528SGT	GaP	568	green transparent	7	18	120°	
AA3528MGC	InGaAlP	568	water clear	70	150	120°	
AA3528VGC	InGaN	525	water clear	110	220	120°	
AA3528VGC/E	InGaN	525	water clear	110	280	120°	
AA3528MBC	GaN	466	water clear	4	15	120°	
AA3528MBCK	GaN	466	water clear	4	8	120°	
AA3528PBC	InGaN	470	water clear	18	60	120°	
AA3528PBC/E	InGaN	470	water clear	50	120	120°	

AA4040SRC	GaAlAs	640	water clear	50	120	90°	<p>4.0mm x 4.0mm Right Angle</p>
AA4040SURC	InGaAlP	628	water clear	70	200	90°	
AA4040NC	GaAsP/GaP	610	water clear	10	30	90°	
AA4040YC	GaAsP/GaP	588	water clear	4	9	90°	
AA4040SYC	InGaAlP	588	water clear	50	120	90°	
AA4040SGC	GaP	568	water clear	10	25	90°	
AA4040MGC	InGaAlP	568	water clear	50	100	90°	
AA4040PGC	GaP	555	water clear	1.6	6	90°	

NOTES:
 1. All dimensions are in millimeters (inches).
 2. Tolerance is $\pm 0.25\text{mm}$ (0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		

AA2734ESGC	GaAsP/GaP	625	water clear	7	30	120°	2.7mm x 3.4mm (Bi-Color)
	GaP	568		7	30		
AA2734SRSGC	GaAlAs	640	water clear	36	150	120°	
	GaP	568		7	30		

AAA3528SURKSYKC	InGaAlP	635	water clear	70	200	120°	3.5mm x 2.8mm
	InGaAlP	590		18	100		
AAA3528SURKCGKC	InGaAlP	635	water clear	70	200	120°	
	InGaAlP	570		18	80		
AAA3528EMBSGC	GaAsP/GaP	625	water clear	10	30	120°	
	GaN	466		4	20		
AAA3528SURKVGPC	InGaAlP	635	water clear	70	200	120°	
	InGaN	525		70	170		
	InGaN	470		36	70		

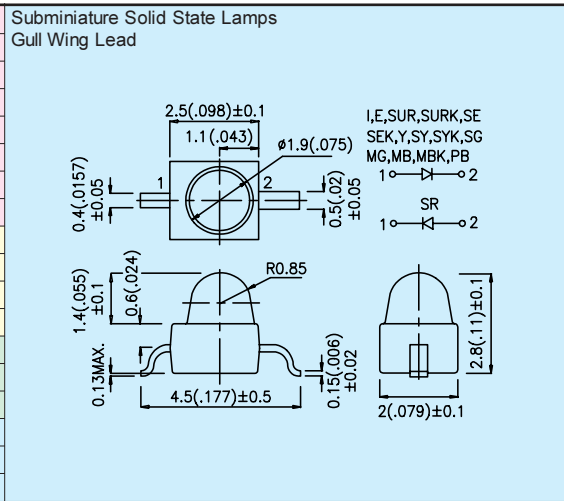
AM23ID-F	GaAsP/GaP	625	red diffused	4	15	140°	SOT-23 Surface Mount LED Lamp (3mm x 1.3mm)
AM23EC-F	GaAsP/GaP	625	water clear	4	15	140°	
AM23SRD-F	GaAlAs	640	red diffused	36	70	140°	
AM23SRC-F	GaAlAs	640	water clear	36	70	140°	
AM23YD-F	GaAsP/GaP	588	yellow diffused	1.6	5	140°	
AM23YC-F	GaAsP/GaP	588	water clear	1.6	5	140°	
AM23SYD-F	InGaAlP	588	yellow diffused	50	100	140°	
AM23SYC-F	InGaAlP	588	water clear	50	100	140°	
AM23SGD-F	GaP	568	green diffused	2.6	8	140°	
AM23SGC-F	GaP	568	water clear	2.6	8	140°	
AM23ESGW	GaAsP/GaP	625	white diffused	4	15	140°	
	GaP	568		4	15	140°	
AM23ESGC	GaAsP/GaP	625	water clear	4	15	140°	
	GaP	568		4	15	140°	

NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

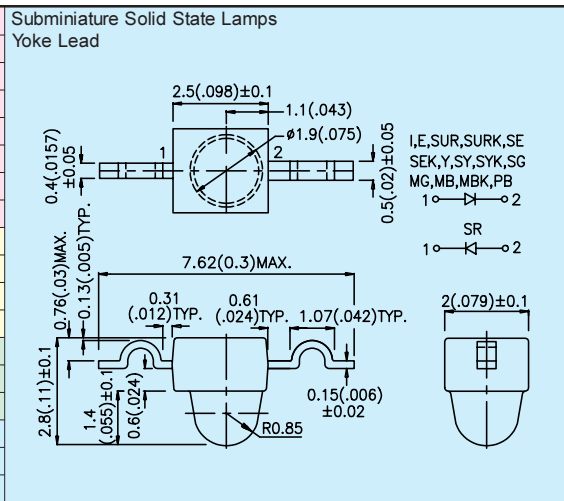


Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		

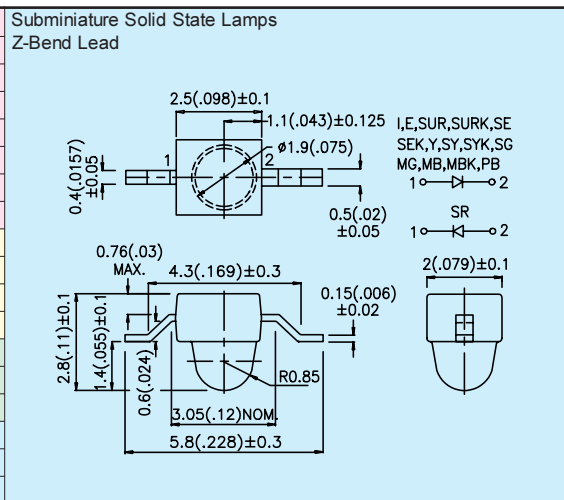
AM2520ID03	GaAsP/GaP	625	red diffused	7	30	40°
AM2520EC03	GaAsP/GaP	625	water clear	10	70	20°
AM2520SRD03	GaAlAs	640	red diffused	50	150	40°
AM2520SRC03	GaAlAs	640	water clear	110	600	20°
AM2520SURC03	InGaAlP	628	water clear	280	660	20°
AM2520SURCK03	InGaAlP	635	water clear	180	650	20°
AM2520SEC03	InGaAlP	601	water clear	480	1300	20°
AM2520SECK03	InGaAlP	601	water clear	180	700	20°
AM2520YD03	GaAsP/GaP	588	yellow diffused	2.6	10	40°
AM2520YC03	GaAsP/GaP	588	water clear	10	30	20°
AM2520SYC03	InGaAlP	588	water clear	110	700	20°
AM2520SYCK03	InGaAlP	590	water clear	70	300	20°
AM2520SGD03	GaP	568	green diffused	2.6	10	40°
AM2520SGC03	GaP	568	water clear	36	100	20°
AM2520MGC03	InGaAlP	568	water clear	280	600	20°
AM2520MBC03	GaN	466	water clear	18	60	20°
AM2520MBCK03	GaN	466	water clear	10	30	20°
AM2520PBC03	InGaN	470	water clear	110	250	20°



AM2520ID08	GaAsP/GaP	625	red diffused	7	30	40°
AM2520EC08	GaAsP/GaP	625	water clear	10	70	20°
AM2520SRD08	GaAlAs	640	red diffused	50	150	40°
AM2520SRC08	GaAlAs	640	water clear	110	600	20°
AM2520SURC08	InGaAlP	628	water clear	280	660	20°
AM2520SURCK08	InGaAlP	635	water clear	180	650	20°
AM2520SEC08	InGaAlP	601	water clear	480	1300	20°
AM2520SECK08	InGaAlP	601	water clear	180	700	20°
AM2520YD08	GaAsP/GaP	588	yellow diffused	2.6	10	40°
AM2520YC08	GaAsP/GaP	588	water clear	10	30	20°
AM2520SYC08	InGaAlP	588	water clear	110	700	20°
AM2520SYCK08	InGaAlP	590	water clear	70	300	20°
AM2520SGD08	GaP	568	green diffused	2.6	10	40°
AM2520SGC08	GaP	568	water clear	36	100	20°
AM2520MGC08	InGaAlP	568	water clear	280	600	20°
AM2520MBC08	GaN	466	water clear	18	60	20°
AM2520MBCK08	GaN	466	water clear	10	30	20°
AM2520PBC08	InGaN	470	water clear	110	250	20°

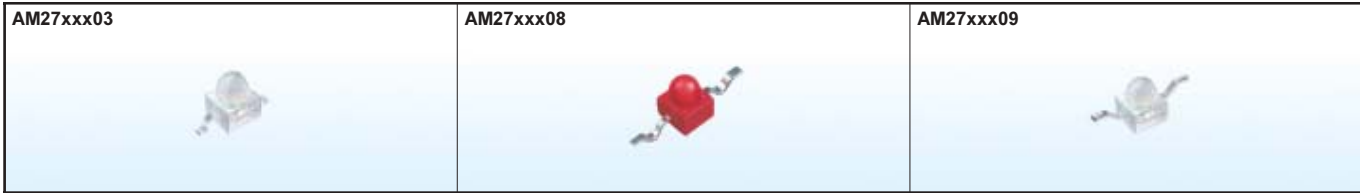


AM2520ID09	GaAsP/GaP	625	red diffused	7	30	40°
AM2520EC09	GaAsP/GaP	625	water clear	10	70	20°
AM2520SRD09	GaAlAs	640	red diffused	50	150	40°
AM2520SRC09	GaAlAs	640	water clear	110	600	20°
AM2520SURC09	InGaAlP	628	water clear	280	660	20°
AM2520SURCK09	InGaAlP	635	water clear	180	650	20°
AM2520SEC09	InGaAlP	601	water clear	480	1300	20°
AM2520SECK09	InGaAlP	601	water clear	180	700	20°
AM2520YD09	GaAsP/GaP	588	yellow diffused	2.6	10	40°
AM2520YC09	GaAsP/GaP	588	water clear	10	30	20°
AM2520SYC09	InGaAlP	588	water clear	110	700	20°
AM2520SYCK09	InGaAlP	590	water clear	70	300	20°
AM2520SGD09	GaP	568	green diffused	2.6	10	40°
AM2520SGC09	GaP	568	water clear	36	100	20°
AM2520MGC09	InGaAlP	568	water clear	280	600	20°
AM2520MBC09	GaN	466	water clear	18	60	20°
AM2520MBCK09	GaN	466	water clear	10	30	20°
AM2520PBC09	InGaN	470	water clear	110	250	20°



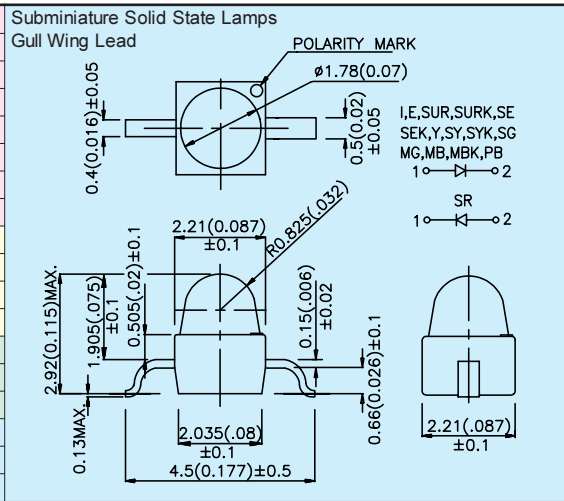
NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

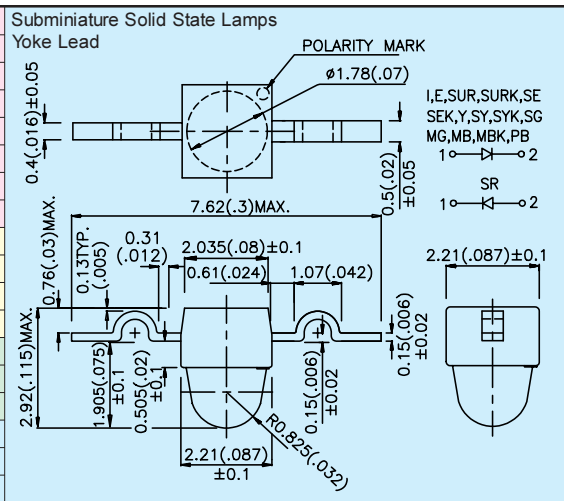


Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		

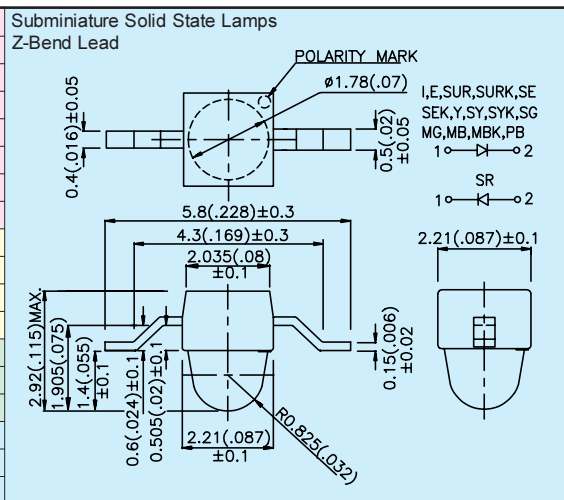
AM27ID03	GaAsP/GaP	625	red diffused	7	30	40°
AM27EC03	GaAsP/GaP	625	water clear	10	70	20°
AM27SRD03	GaAlAs	640	red diffused	50	150	40°
AM27SRC03	GaAlAs	640	water clear	110	600	20°
AM27SURC03	InGaAlP	628	water clear	280	660	20°
AM27SURCK03	InGaAlP	635	water clear	180	650	20°
AM27SEC03	InGaAlP	601	water clear	480	1300	20°
AM27SECK03	InGaAlP	601	water clear	180	700	20°
AM27YD03	GaAsP/GaP	588	yellow diffused	2.6	10	40°
AM27YC03	GaAsP/GaP	588	water clear	10	30	20°
AM27SYC03	InGaAlP	588	water clear	110	700	20°
AM27SYCK03	InGaAlP	590	water clear	70	300	20°
AM27SGD03	GaP	568	green diffused	2.6	10	40°
AM27SGC03	GaP	568	water clear	36	100	20°
AM27MGC03	InGaAlP	568	water clear	280	600	20°
AM27MBC03	GaN	466	water clear	18	60	20°
AM27MBCK03	GaN	466	water clear	10	30	20°
AM27PBC03	InGaN	470	water clear	110	250	20°



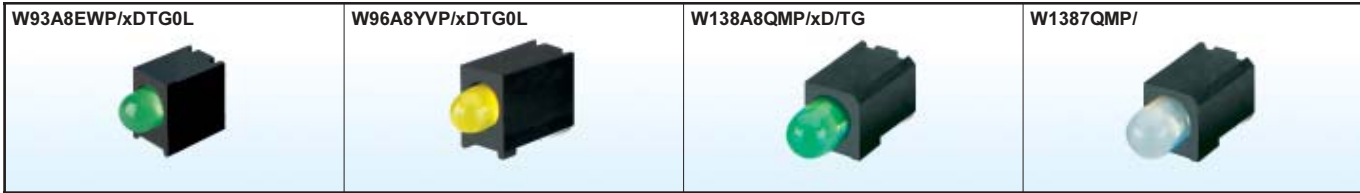
AM27ID08	GaAsP/GaP	625	red diffused	7	30	40°
AM27EC08	GaAsP/GaP	625	water clear	10	70	20°
AM27SRD08	GaAlAs	640	red diffused	50	150	40°
AM27SRC08	GaAlAs	640	water clear	110	600	20°
AM27SURC08	InGaAlP	628	water clear	280	660	20°
AM27SURCK08	InGaAlP	635	water clear	180	650	20°
AM27SEC08	InGaAlP	601	water clear	480	1300	20°
AM27SECK08	InGaAlP	601	water clear	180	700	20°
AM27YD08	GaAsP/GaP	588	yellow diffused	2.6	10	40°
AM27YC08	GaAsP/GaP	588	water clear	10	30	20°
AM27SYC08	InGaAlP	588	water clear	110	700	20°
AM27SYCK08	InGaAlP	590	water clear	70	300	20°
AM27SGD08	GaP	568	green diffused	2.6	10	40°
AM27SGC08	GaP	568	water clear	36	100	20°
AM27MGC08	InGaAlP	568	water clear	280	600	20°
AM27MBC08	GaN	466	water clear	18	60	20°
AM27MBCK08	GaN	466	water clear	10	30	20°
AM27PBC08	InGaN	470	water clear	110	250	20°



AM27ID09	GaAsP/GaP	625	red diffused	7	30	40°
AM27EC09	GaAsP/GaP	625	water clear	10	70	20°
AM27SRD09	GaAlAs	640	red diffused	50	150	40°
AM27SRC09	GaAlAs	640	water clear	110	600	20°
AM27SURC09	InGaAlP	628	water clear	280	660	20°
AM27SURCK09	InGaAlP	635	water clear	180	650	20°
AM27SEC09	InGaAlP	601	water clear	480	1300	20°
AM27SECK09	InGaAlP	601	water clear	180	700	20°
AM27YD09	GaAsP/GaP	588	yellow diffused	2.6	10	40°
AM27YC09	GaAsP/GaP	588	water clear	10	30	20°
AM27SYC09	InGaAlP	588	water clear	110	700	20°
AM27SYCK09	InGaAlP	590	water clear	70	300	20°
AM27SGD09	GaP	568	green diffused	2.6	10	40°
AM27SGC09	GaP	568	water clear	36	100	20°
AM27MGC09	InGaAlP	568	water clear	280	600	20°
AM27MBC09	GaN	466	water clear	18	60	20°
AM27MBCK09	GaN	466	water clear	10	30	20°
AM27PBC09	InGaN	470	water clear	110	250	20°



NOTES:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25mm (0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		

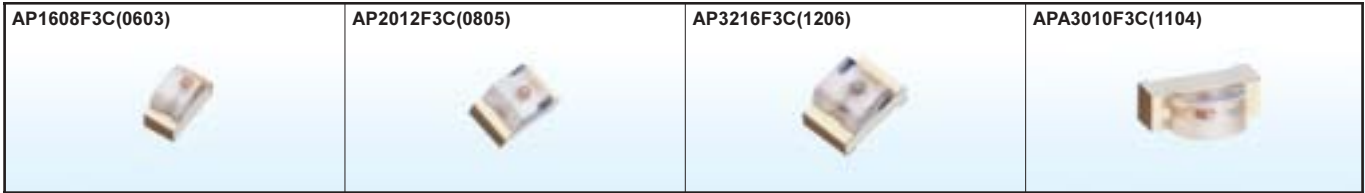
W93A8EWP/IDTG0L	GaAsP/GaP	625	red diffused	12	25	60°	<p>T-1 (3mm) Right Angle</p>
W93A8EWP/SRDTG0L	GaAlAs	640	red diffused	*110	*280	60°	
W93A8EWP/YDTG0L	GaAsP/GaP	588	yellow diffused	5	12	60°	
W93A8EWP/GDTG0L	GaP	588	green diffused	8	20	60°	

W96A8YVP/IDTG0L	GaAsP/GaP	625	red diffused	12	25	60°	<p>3mm Right Angle</p>
W96A8YVP/SRDTG0L	GaAlAs	640	red diffused	*110	*280	60°	
W96A8YVP/YDTG0L	GaAsP/GaP	588	yellow diffused	5	12	60°	
W96A8YVP/GDTG0L	GaP	588	green diffused	8	20	60°	

W138A8QMP/ID/TG	GaAsP/GaP	625	red diffused	12	20	60°	<p>3.4mm Right Angle</p>
W138A8QMP/SRDTG	GaAlAs	640	red diffused	*110	*250	60°	
W138A8QMP/YD/TG	GaAsP/GaP	588	yellow diffused	8	15	60°	
W138A8QMP/GD/TG	GaP	588	green diffused	8	15	60°	

W1387QMP/EGW	GaAsP/GaP	625	white diffused	*7	*20	60°	<p>3.4mm Right Angle</p>
	GaP	588		*7	*20		
W1387QMP/GYW	GaP	588	white diffused	*7	*20	60°	
	GaAsP/GaP	588		*4	*10		
W1387QMP/SGMBW	GaP	588	white diffused	*7	*20	60°	
	GaN	466		*4	*15		
W1387QMP/SGPBW	GaP	588	white diffused	*7	*20	60°	
	InGaN	470		*36	*70		

NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ P (nm)	Lens Type	Po (mW/sr) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
AP1608F3C	GaAs	940	water clear	0.4	1.2	120°	1.6mm x 0.8mm x 1.1mm (0603)
AP1608SF4C	GaAlAs	880	water clear	0.4	1	120°	
AP2012F3C	GaAs	940	water clear	0.4	1.2	120°	2.0mm x 1.25mm x 1.1mm (0805)
AP2012SF4C	GaAlAs	880	water clear	0.4	1	120°	
AP3216F3C	GaAs	940	water clear	0.4	1.2	120°	3.2mm x 1.6mm x 1.1mm (1206)
AP3216SF4C	GaAlAs	880	water clear	0.4	1	120°	
APA3010F3C	GaAs	940	water clear	0.4	1.2	120°	3.0mm x 1.0mm x 2mm (1104 Right Angle)
APA3010SF4C	GaAlAs	880	water clear	0.4	1	120°	

Units : mm(inch)
Tolerance : ±0.2(0.008)

Units : mm(inch)
Tolerance : ±0.15(0.006)

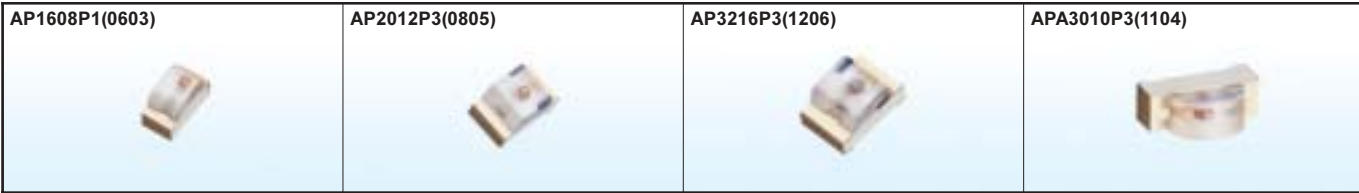
NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ P (nm)	Lens Type	Po (mW/sr) @20mA *50mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
APL3015F3C	GaAs	940	water clear	0.4	1.2	70°	3.0mm x 1.5mm x 1.4mm (1106) LED CHIP POLARITY MARK 3 [.118] 2 [.079] 1.5 [.059] 0.5 [.02] 1.4 [.055] 1.6 [.063] 1.5 [.059] 1 2 F3 SF4 1 2 1 2 Units : mm (inch) Tolerance : ±0.2 (0.008)
APL3015SF4C	GaAlAs	880	water clear	0.4	1	70°	
AA3528F3C	GaAs	940	water clear	1.6	3	120°	3.5mm x 2.8mm 3.5 (.138) ±0.2 3.2 (.126) ±0.2 2.8 (.11) ±0.2 2.2 (.087) 1 2 2 2.4 (.094) POLARITY MARK F3 SF4 1 2 1 2 0.2 (.008) 0.8 (.031) 1.9 (.075) ±0.2 0.15 (.0059) 0.8 (.031) ±0.3 0.1 (.004) NOM.
AA3528SF4C	GaAlAs	880	water clear	0.4	3	120°	
AM2520F3C03	GaAs	940	water clear	1.6	6	20°	2mm Subminiature IR Emitter 2.5 (.098) ±0.1 1.1 (.043) φ1.9 (.075) 0.4 (.0157) ±0.05 1 2 0.5 (.02) ±0.05 F3 SF4 1 2 1 2 1.4 (.065) ±0.1 0.6 (.024) R0.85 0.13 MAX. 4.5 (.177) ±0.5 0.15 (.006) ±0.02 2.8 (.11) ±0.1 2 (.079) ±0.1
AM2520SF4C03	GaAlAs	880	water clear	1.6	4	20°	
				*2.6	*8	20°	
				*2.6	*4	120°	
				*2.6	*8	20°	

NOTES:

- All dimensions are in millimeters (inches).
- Tolerance is ±0.25mm (0.01") unless otherwise noted.



PHOTOTRANSISTORS

1.6mm x 0.8mm x 1.1mm (0603)

- AP1608P1C WATER CLEAR LENS
- AP1608P1BT BLUE TRANSPARENT LENS

2.0mm x 1.25mm x 1.1mm (0805)

- AP2012P3C WATER CLEAR LENS
- AP2012P3BT BLUE TRANSPARENT LENS

3.2mm x 1.6mm x 1.1mm (1206)

- AP3216P3C WATER CLEAR LENS
- AP3216P3BT BLUE TRANSPARENT LENS

3.0mm x 1.0mm x 2.0mm (1104)

- APA3010P3C WATER CLEAR LENS
- APA3010P3BT BLUE TRANSPARENT LENS

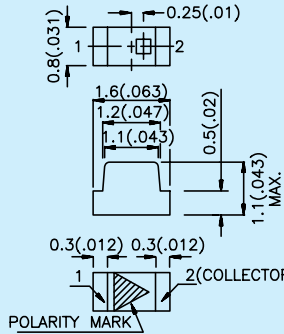
ABSOLUTE MAXIMUM RATING $T_A=25^\circ\text{C}$

Parameter	Max. Ratings
Collector-to-Emitter Breakdown Voltage	30V
Emitter-to-Collector Breakdown Voltage	5V
Power Dissipation at (or below) 25°C Free Air Temperature	100mW
Operating Temperature Range	-40°C ~ +85°C
Storage Temperature Range	-40°C ~ +85°C

ELECTRICAL AND RADIANT CHARACTERISTICS $T_A=25^\circ\text{C}$

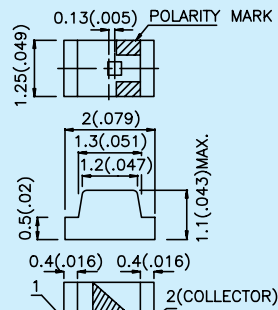
Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
$V_{BR\ CE0}$	Collector-to-Emitter Breakdown Voltage	30	-	-	V	$I_C=100\mu\text{A}$ $E_e=0\text{mW}/\text{cm}^2$
$V_{BR\ EC0}$	Emitter-to-Collector Breakdown Voltage	5	-	-	V	$I_E=100\mu\text{A}$ $E_e=0\text{mW}/\text{cm}^2$
$V_{CE(SAT)}$	Collector-to-Emitter Saturation Voltage	-	-	0.8	V	$I_C=2\text{mA}$ $E_e=20\text{mW}/\text{cm}^2$
I_{CEO}	Collector Dark Current	-	-	100	nA	$V_{CE}=10\text{V}$ $E_e=0\text{mW}/\text{cm}^2$
T_R	Rise Time (10% to 90%)	-	3	-	μs	$V_{CE}=5\text{V}$ $I_C=1\text{mA}$ $R_L=1\text{K}\Omega$
T_F	Fall Time (90% to 10%)	-	3	-	μs	
$I_{(ON)}$	On State Collector Current	0.1	0.3	-	mA	$V_{CE}=5\text{V}$, $E_e=1\text{mW}/\text{cm}^2$, $\lambda=940\text{nm}$

AP1608P1 1.6mm x 0.8mm x 1.1mm (0603)



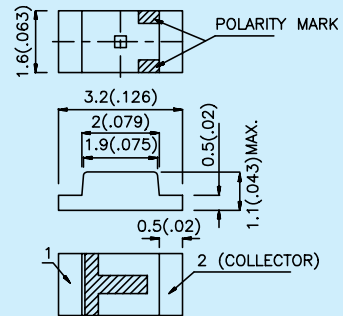
Units : mm(inch)
Tolerance : $\pm 0.1(0.004)$

AP2012P3 2.0mm x 1.25mm x 1.1mm (0805)

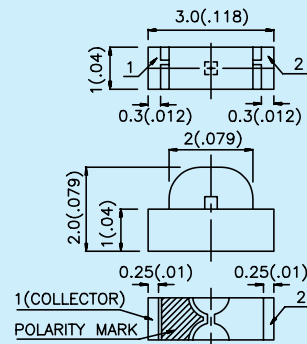


Units : mm(inch)
Tolerance : $\pm 0.1(0.004)$

AP3216P3 3.2mm x 1.6mm x 1.1mm (1206)



APA3010P3 3.0mm x 1.0mm x 2.0mm (1104)



AM2520xxx01



AM27xxx10



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension	
				Min.	Typ.			
AM2520ID01	GaAsP/GaP	625	red diffused	7	30	40°	Subminiature Solid State Lamps 	
AM2520EC01	GaAsP/GaP	625	water clear	10	70	20°		
AM2520SRD01	GaAlAs	640	red diffused	50	150	40°		
AM2520SRC01	GaAlAs	640	water clear	110	600	20°		
AM2520SURC01	InGaAlP	628	water clear	280	660	20°		
AM2520SURCK01	InGaAlP	635	water clear	180	650	20°		
AM2520SEC01	InGaAlP	601	water clear	480	1300	20°		
AM2520SECK01	InGaAlP	601	water clear	180	700	20°		
AM2520YD01	GaAsP/GaP	588	yellow diffused	2.6	10	40°		
AM2520YC01	GaAsP/GaP	588	water clear	10	30	20°		
AM2520SYC01	InGaAlP	588	water clear	110	700	20°		
AM2520SYCK01	InGaAlP	590	water clear	70	300	20°		
AM2520SGD01	GaP	568	green diffused	2.6	10	40°		
AM2520SGC01	GaP	568	water clear	36	100	20°		
AM2520MGC01	InGaAlP	568	water clear	280	600	20°		
AM2520MBC01	GaN	466	water clear	18	60	20°		
AM2520MBCK01	GaN	466	water clear	10	30	20°		
AM2520PBC01	InGaN	470	water clear	110	250	20°		
AM27ID10	GaAsP/GaP	625	red diffused	7	30	40°		Subminiature Solid State Lamps
AM27EC10	GaAsP/GaP	625	water clear	10	70	20°		
AM27SRD10	GaAlAs	640	red diffused	50	150	40°		
AM27SRC10	GaAlAs	640	water clear	110	600	20°		
AM27SURC10	InGaAlP	628	water clear	280	660	20°		
AM27SURCK10	InGaAlP	635	water clear	180	650	20°		
AM27SEC10	InGaAlP	601	water clear	480	1300	20°		
AM27SECK10	InGaAlP	601	water clear	180	700	20°		
AM27YD10	GaAsP/GaP	588	yellow diffused	2.6	10	40°		
AM27YC10	GaAsP/GaP	588	water clear	10	30	20°		
AM27SYC10	InGaAlP	588	water clear	110	700	20°		
AM27SYCK10	InGaAlP	590	water clear	70	300	20°		
AM27SGD10	GaP	568	green diffused	2.6	10	40°		
AM27SGC10	GaP	568	water clear	36	100	20°		
AM27MGC10	InGaAlP	568	water clear	280	600	20°		
AM27MBC10	GaN	466	water clear	18	60	20°		
AM27MBCK10	GaN	466	water clear	10	30	20°		
AM27PBC10	InGaN	470	water clear	110	250	20°		

NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

SIDE VIEW

Kingbright



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2 θ /2	Dimension
				Min.	Typ.		
AA9219/2EC	GaAsP/GaP	625	water clear	18	50	100°	
AA9219/2SRC	GaAlAs	640	water clear	50	100	100°	
AA9219/2YC	GaAsP/GaP	588	water clear	10	20	100°	
AA9219/2SGC	GaP	568	water clear	7	40	100°	
AA1114/2EC/CC	GaAsP/GaP	625	water clear	4	9	120°	
AA1114/2YC/CC	GaAsP/GaP	588	water clear	4	10	120°	
AA1114/2SYC/CC	InGaAlP	588	water clear	50	100	120°	
AA1114/2SGC/CC	GaP	568	water clear	7	16	120°	
AA1114/2MBC/CC	GaN	466	water clear	4	10	120°	
AA1114/2PBC/CC	InGaN	470	water clear	18	50	120°	

BACK LIGHT

Kingbright

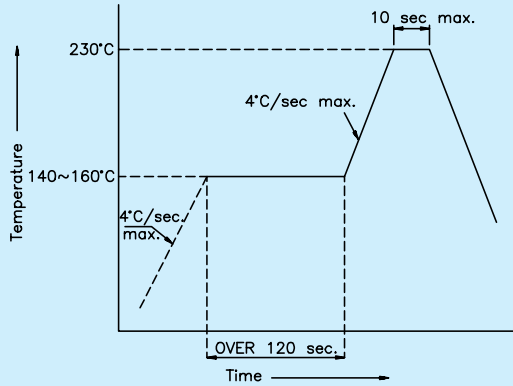
Part No.	Material	λ D (nm)	Lens Type	Ev (lux) @80mA		VF	Dimension
				Min.	Typ.		
GLP003/1608SURC	InGaAlP	628	water clear	69	103	1.9	
GLP003/1608CGCK	InGaAlP	570	water clear	110	164.5	2.1	
GLP003/1608PBC	InGaN	470	water clear	293	440	3.65	

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01")$ unless otherwise noted.

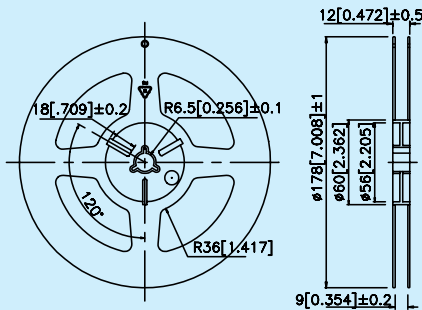
SMT Reflow Soldering Instructions

Number of reflow process shall be more than 2 times and cooling process to normal temperature is required between first and second soldering process.

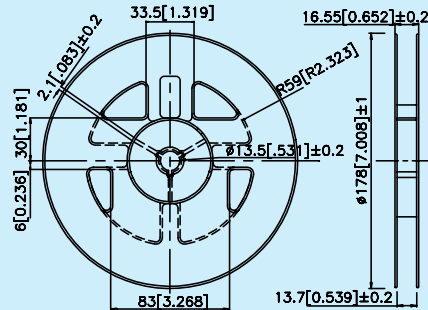


PART NO.	REEL DIMENSION
AA3020, AM23-F, AP1608, AP2012, AP3216, APA2106, APA3010, APB3025, APBA3010, APBD3224, APBL3025, APC3216, APD3224, APE2712, APEKA3224, APHK1608, APHHS1005, APJA2107, APK3020, APK3216, APKA2810, APKF3030, APKB3025, APL3015, APT1608, APT2012, APT3216, APTB1612, APTB1615, APTC2012, APTK2012, APTD3216, APTF3216, APTR3216.	7" (for 8mm width tape)
APBX02-41, APBX03-41, APDX04-41, APPDX04-41, APPSX04-41, APSX56-41.	13" (for 32mm width tape)
AA2734, AA3022-4.5SF, AA3528, AA4040, AA5060, AAA3528, AAA5060, AAAF5060, AM2520xxx03, AM2520xxx08, AM2520xxx09, AM27xxx03, AM27xxx08, AM27xxx09, APD2520xxx03, APED3528, APED3820, APEKA4030, APF3236, APJKA4008, APK3520, APKA4110.	7" (for 12mm width tape)
APDX02-41, APDX03-41, APSX02-41, APSX03-41, APSX04-41, W138A8QMP/xD/TG, W1387QMP/, W93A8EWP/xDTG0L, W96A8YVP/xDTG0L.	13" (for 24mm width tape)
APCX02-41, APCX03-41, APDX56-41.	13" (for 44mm width tape)

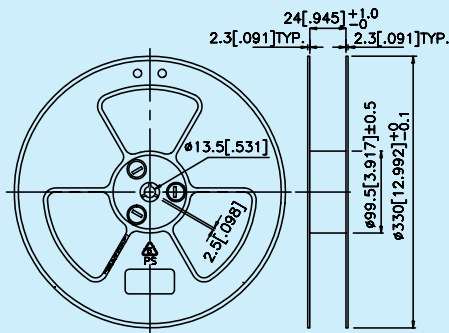
7" (for 8mm width tape)



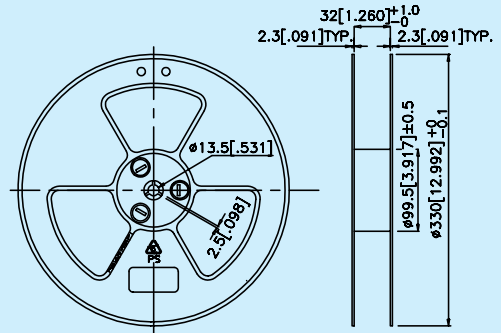
7" (for 12mm width tape)



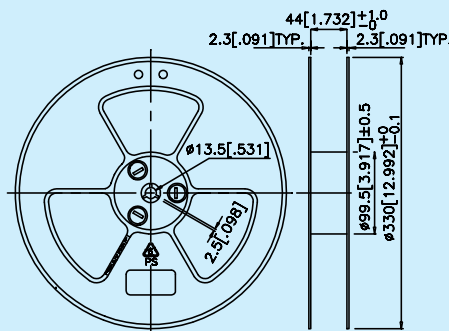
13" (for 24mm width tape)



13" (for 32mm width tape)

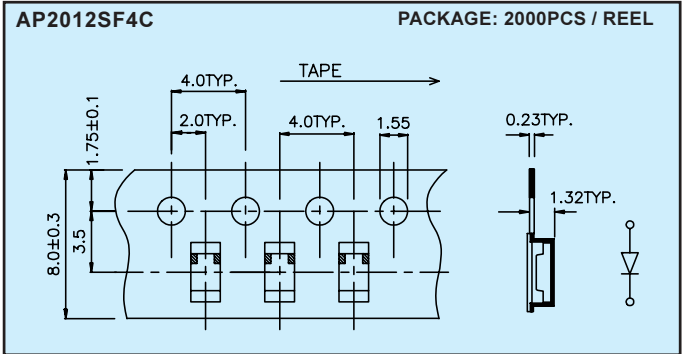
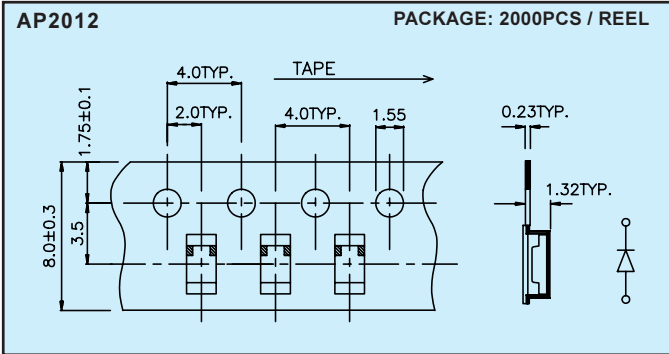
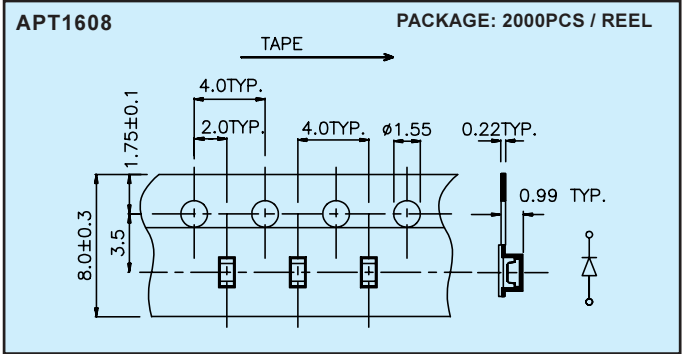
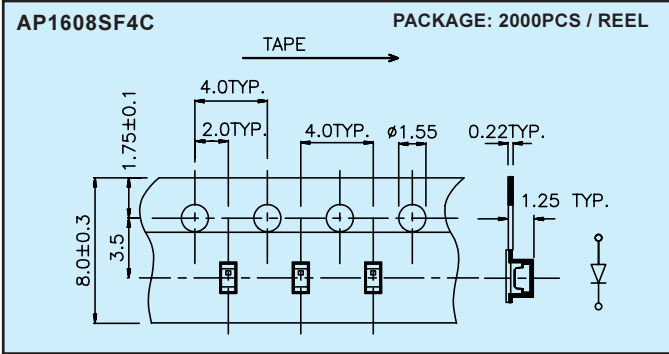
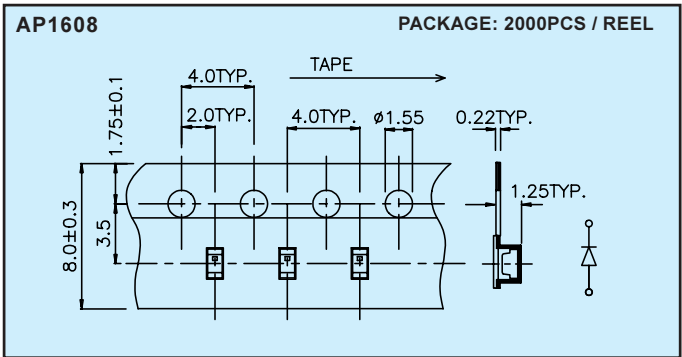
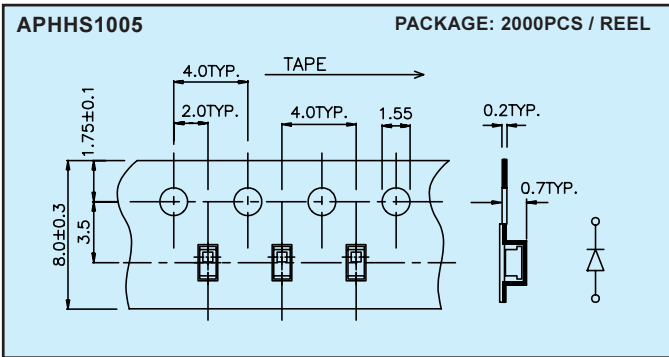
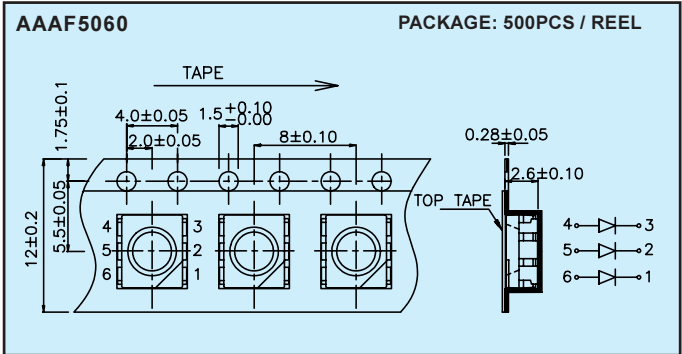
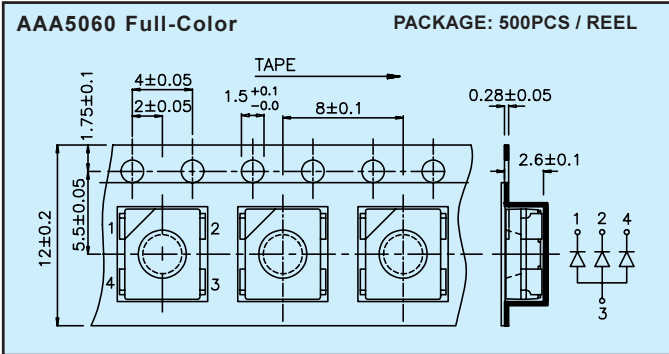
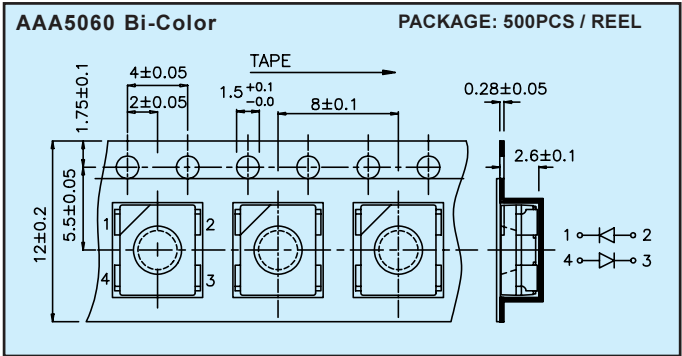
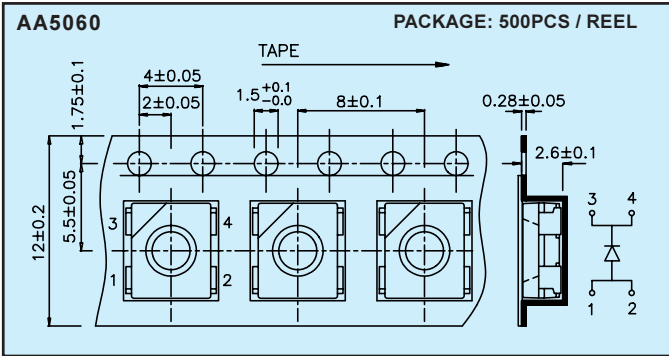


13" (for 44mm width tape)

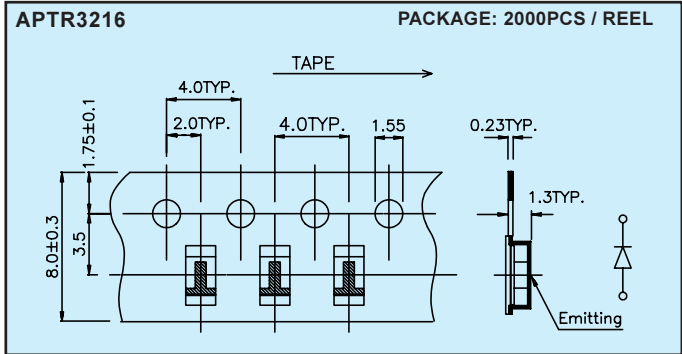
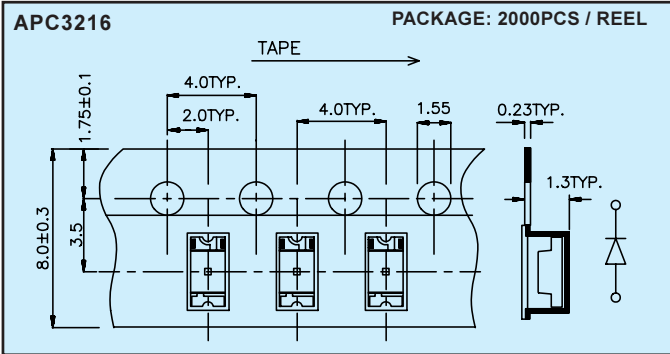
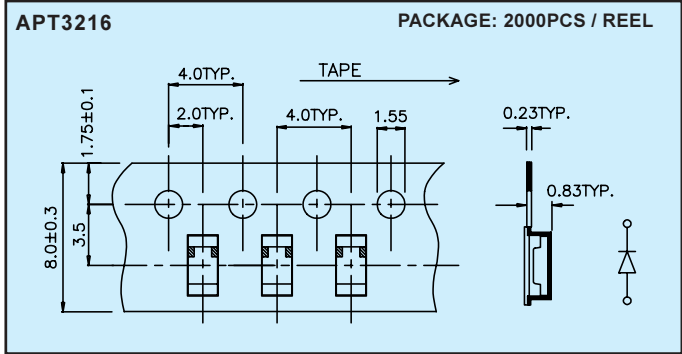
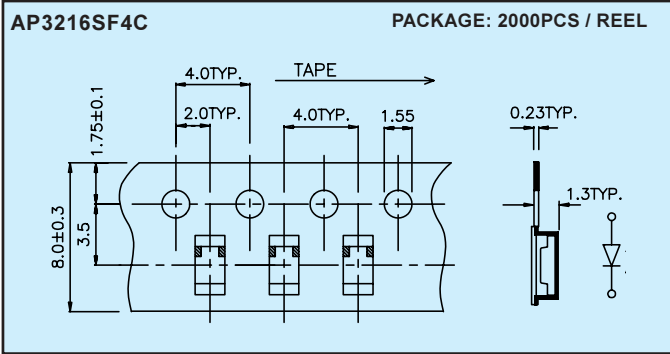
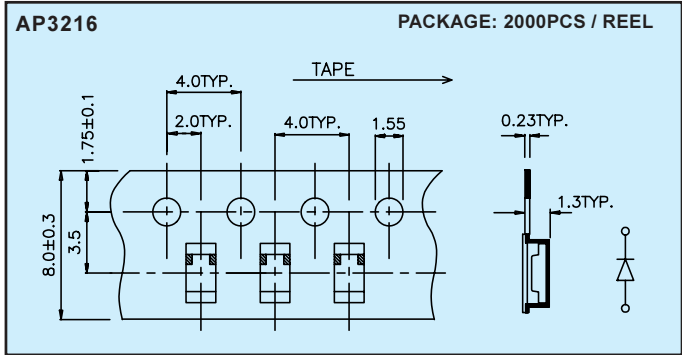
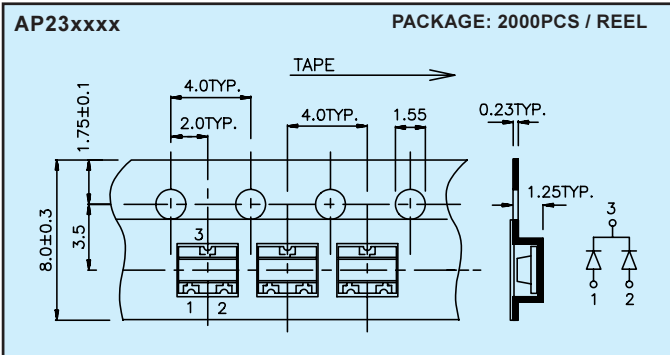
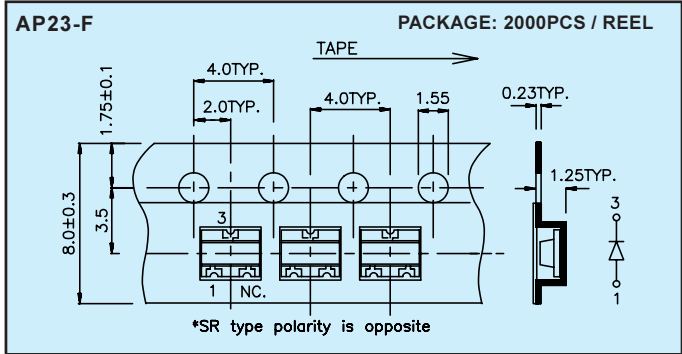
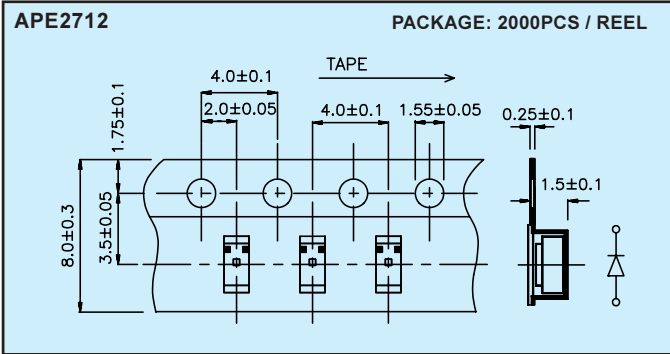
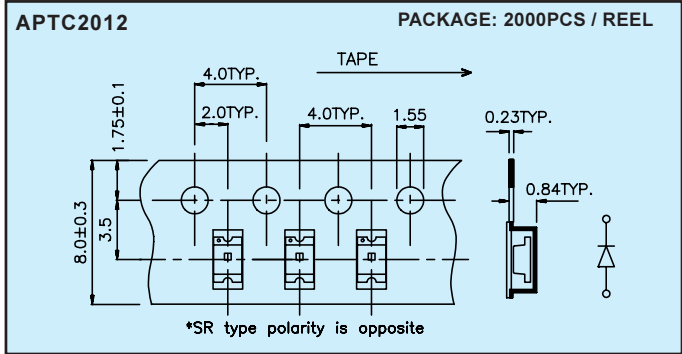
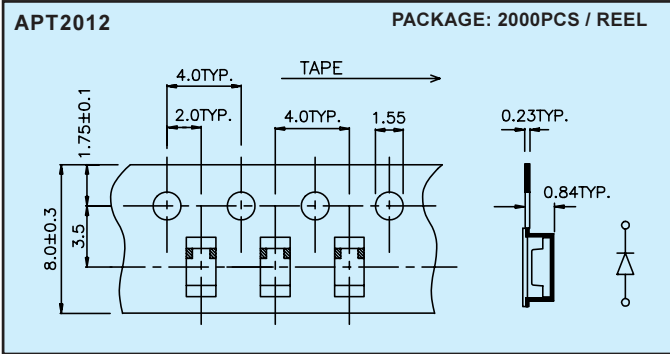


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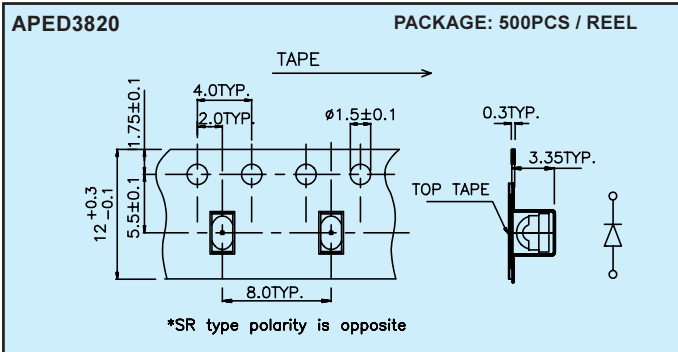
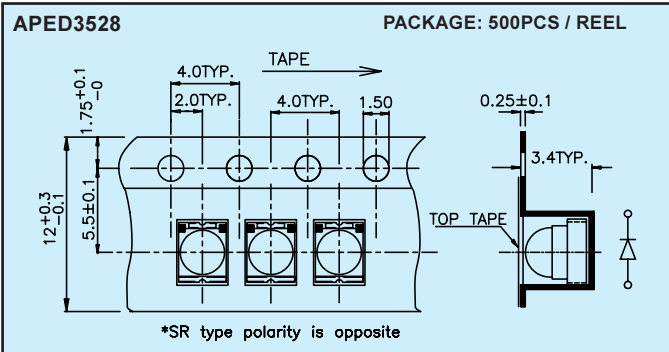
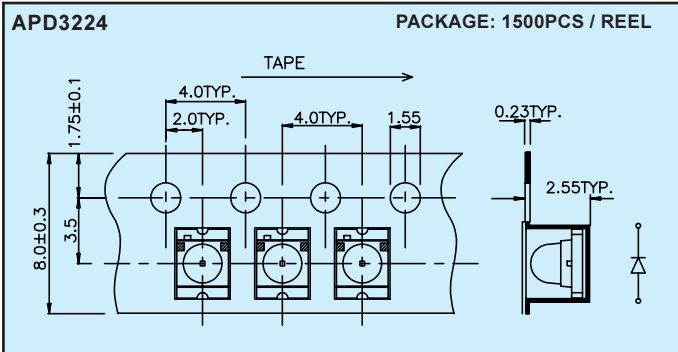
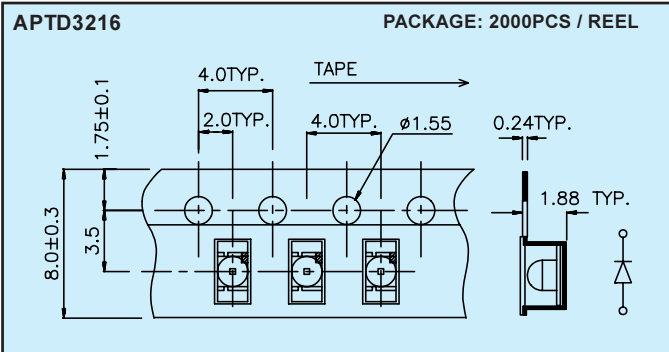
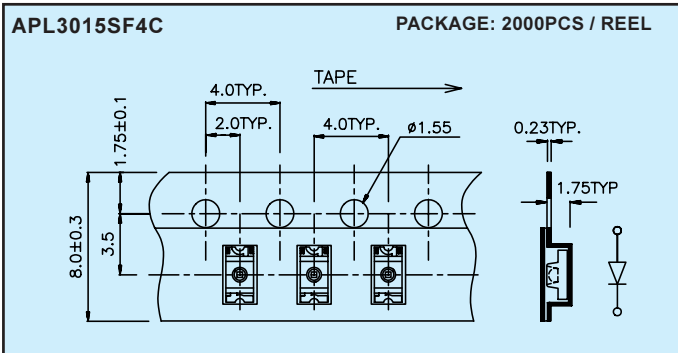
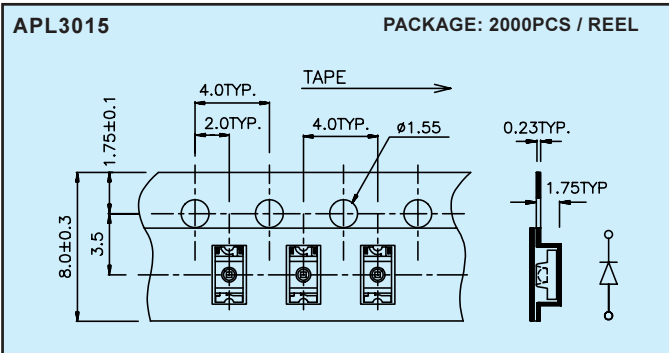
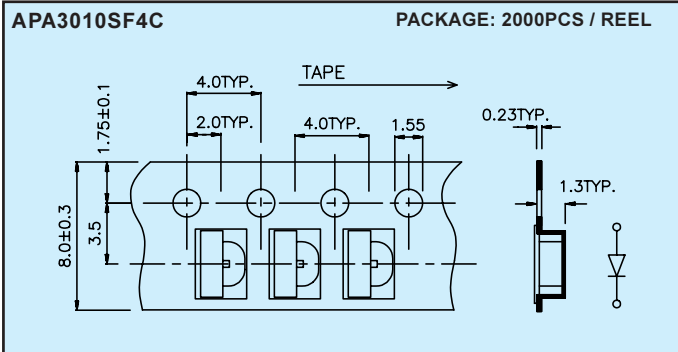
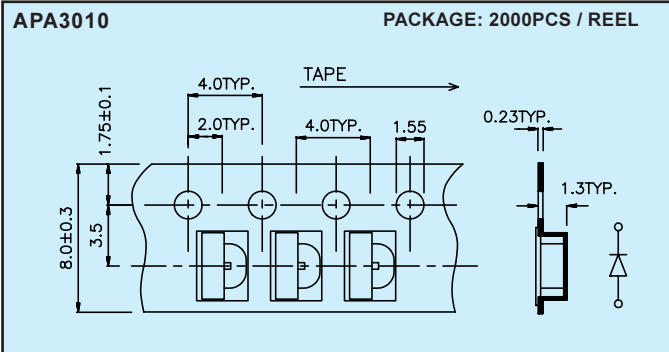
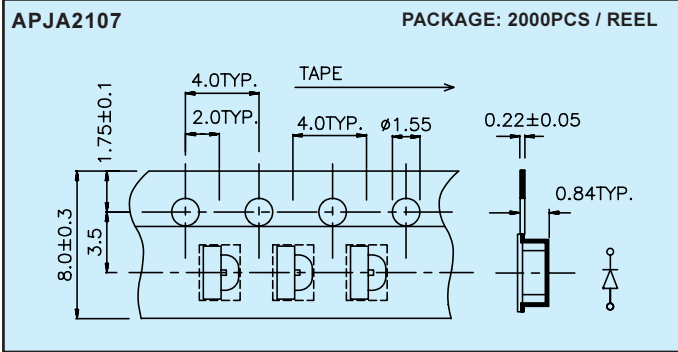
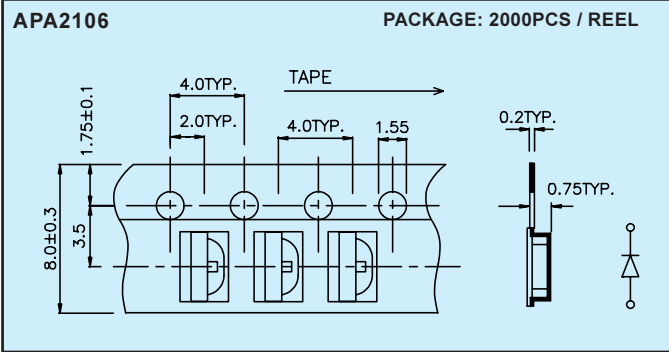
- All dimensions are in millimeters (inches).
- Tolerance is ±0.25mm (0.01") unless otherwise noted.



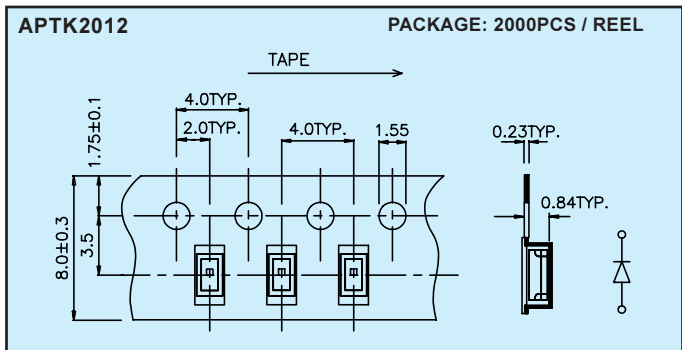
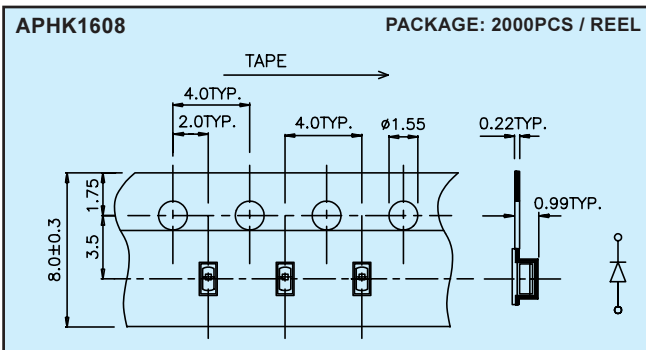
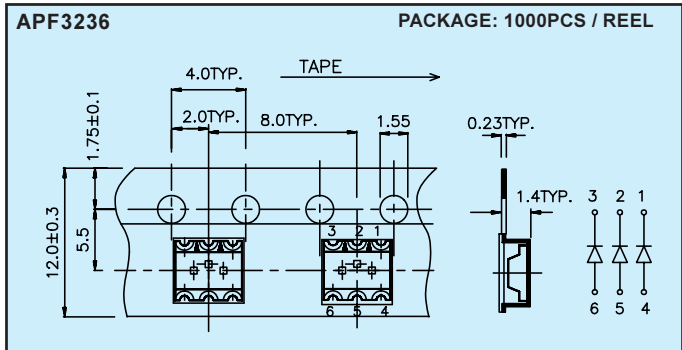
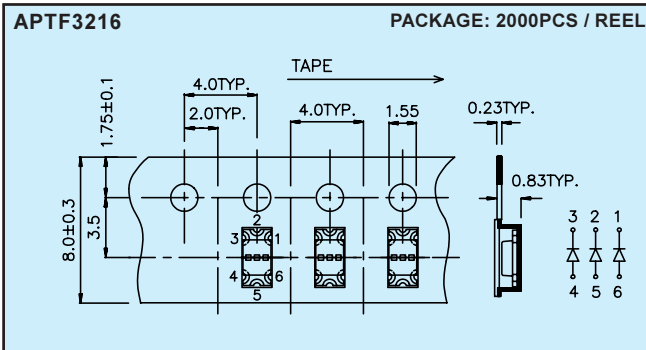
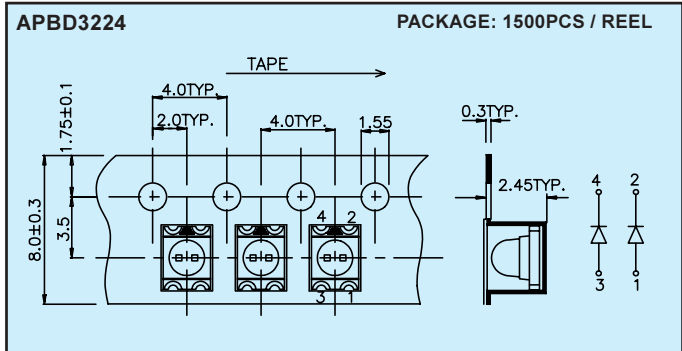
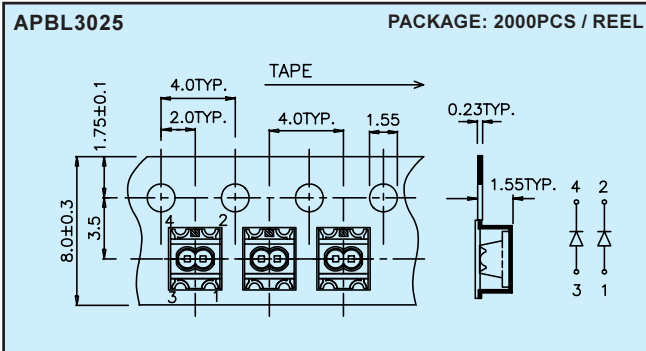
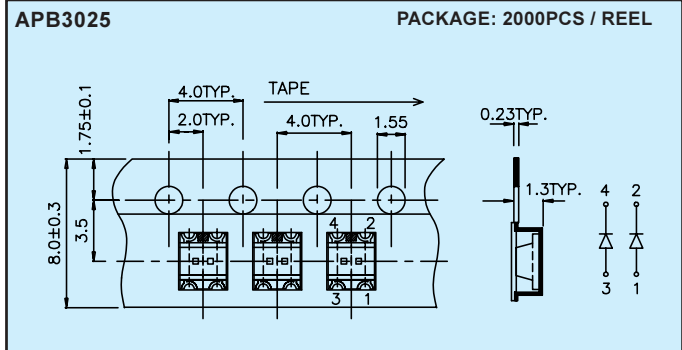
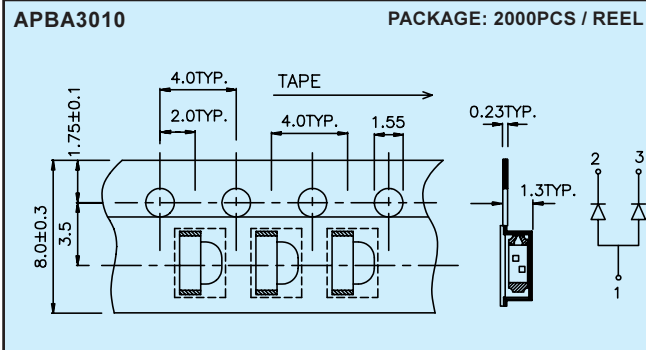
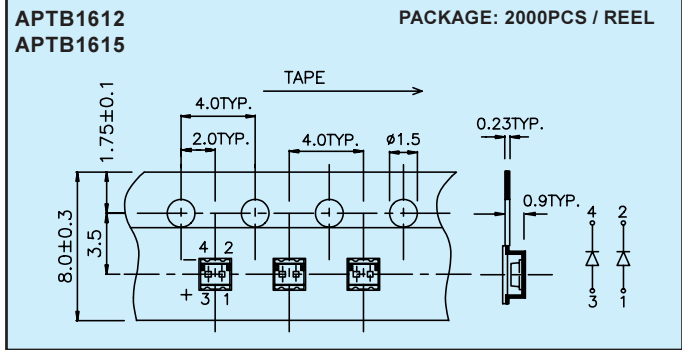
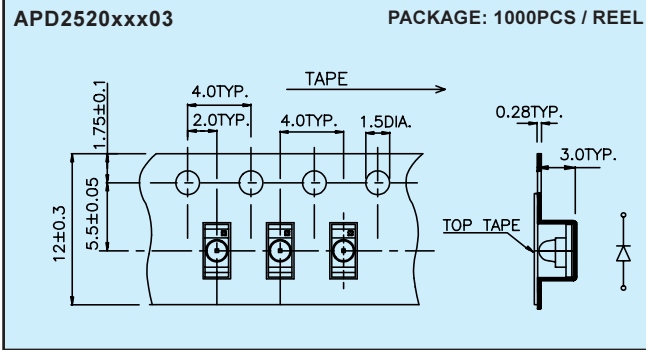
NOTES:
 1. All dimensions are in millimeters (inches).
 2. Tolerance is ±0.25mm (0.01") unless otherwise noted.



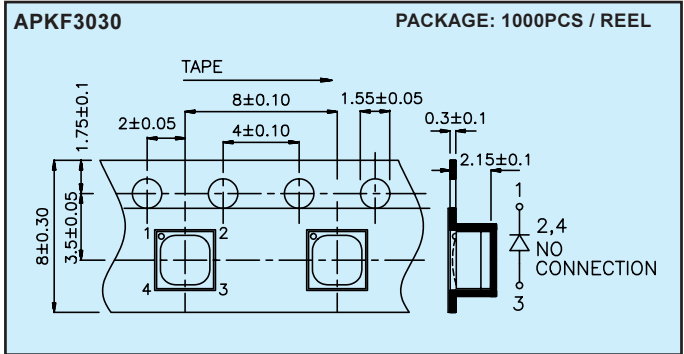
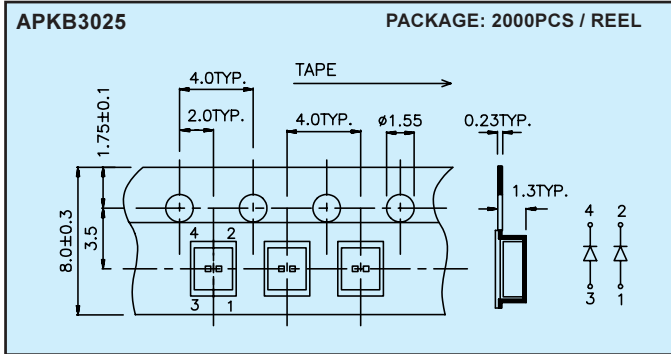
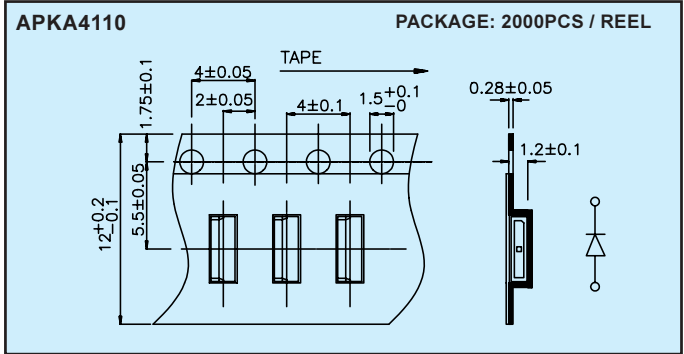
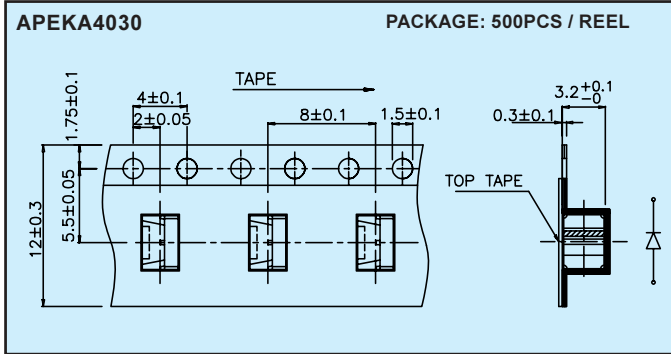
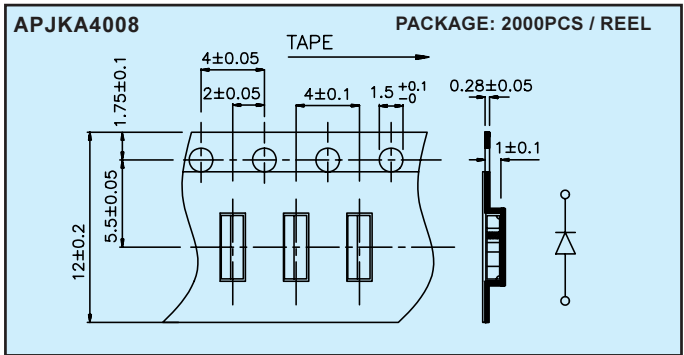
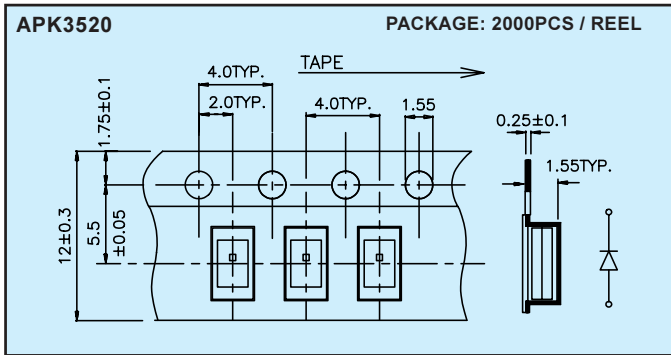
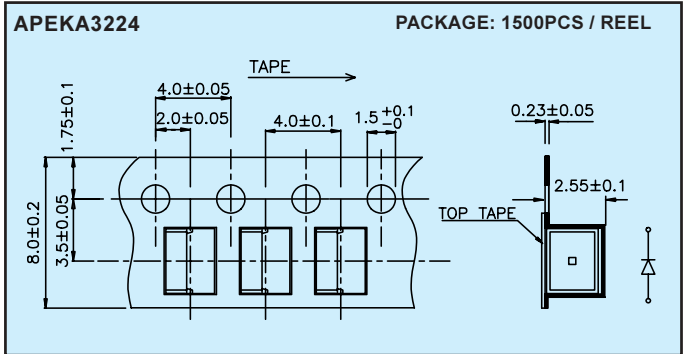
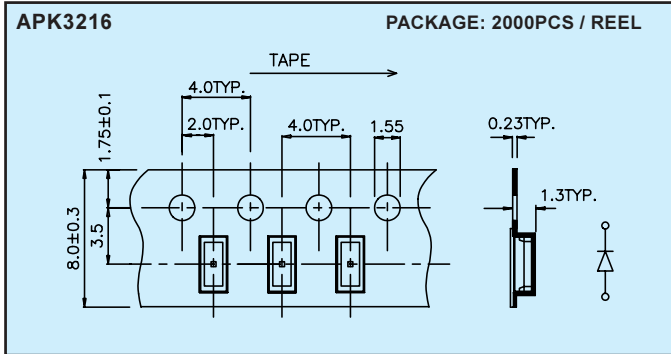
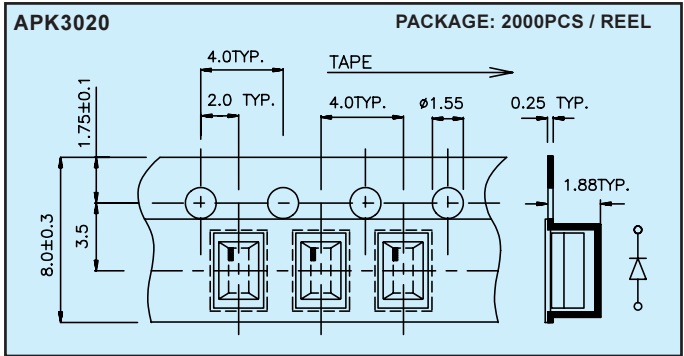
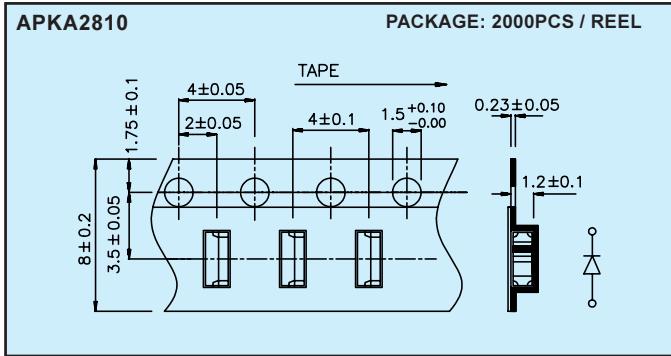
NOTES:
 1. All dimensions are in millimeters (inches).
 2. Tolerance is ±0.25mm (0.01") unless otherwise noted.



- NOTES:
 1. All dimensions are in millimeters (inches).
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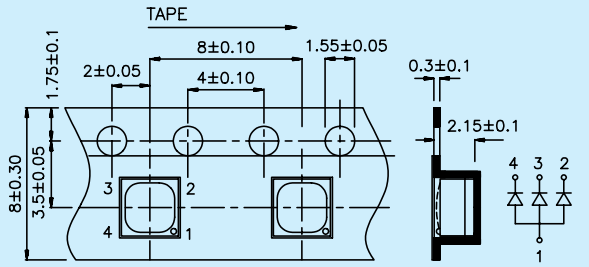


NOTES:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25mm (0.01") unless otherwise noted.

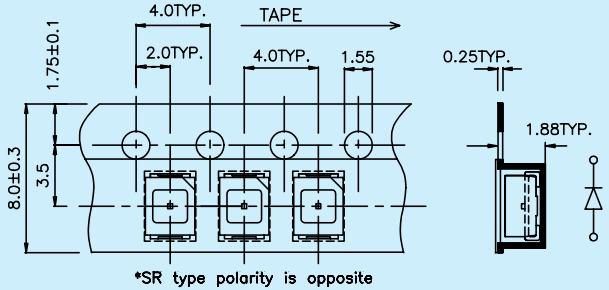


NOTES:
 1. All dimensions are in millimeters (inches).
 2. Tolerance is ± 0.25 mm (0.01") unless otherwise noted.

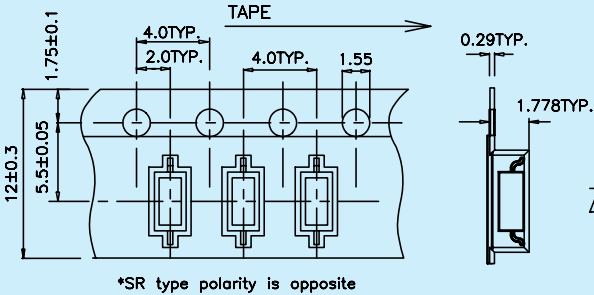
APKF3030 Full-Color PACKAGE: 1000PCS / REEL



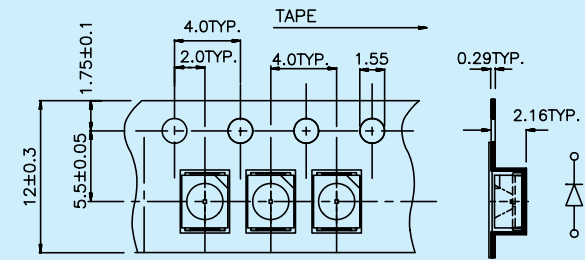
AA3020 PACKAGE: 2000PCS / REEL



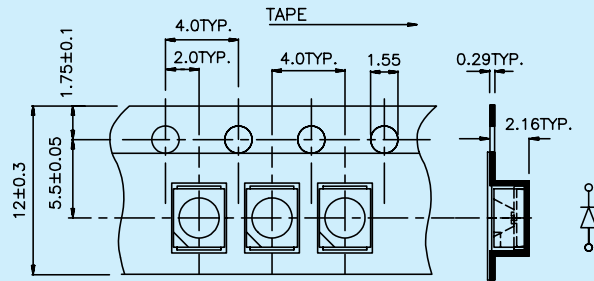
AA3022-4.5SF PACKAGE: 1500PCS / REEL



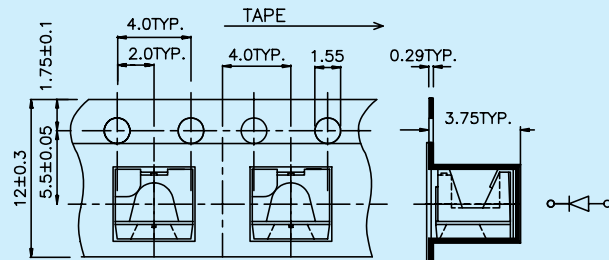
AA3528 PACKAGE: 1500PCS / REEL



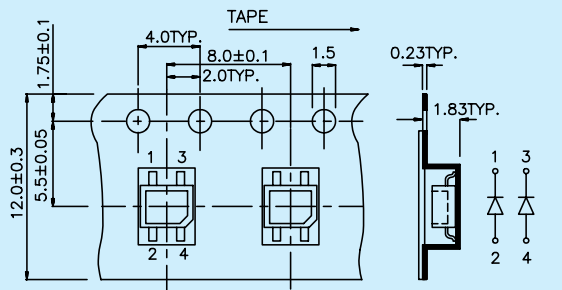
AA3528SRC,AA3528SF4C PACKAGE: 1500PCS / REEL



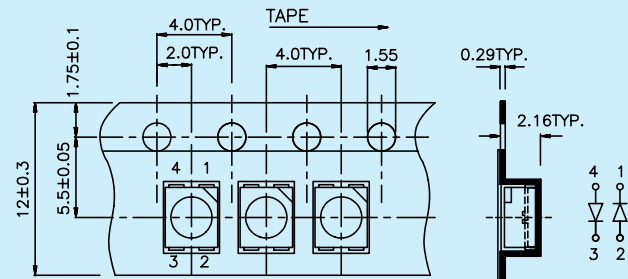
AA4040 PACKAGE: 500PCS / REEL



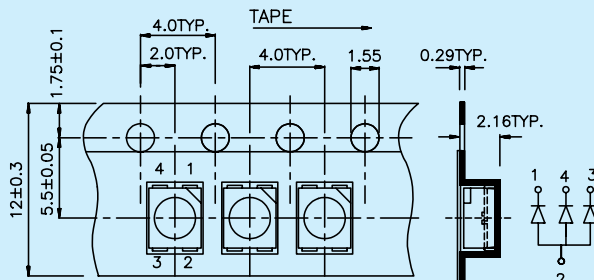
AA2734 PACKAGE: 1000PCS / REEL



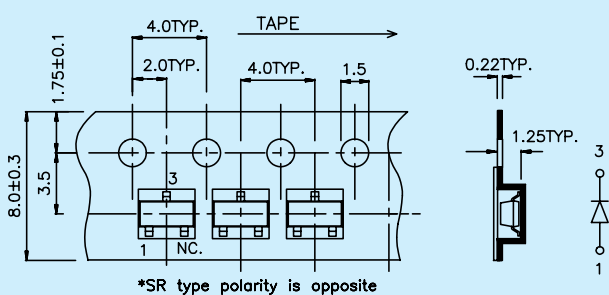
AAA3528 Bi-Color PACKAGE: 1500PCS / REEL



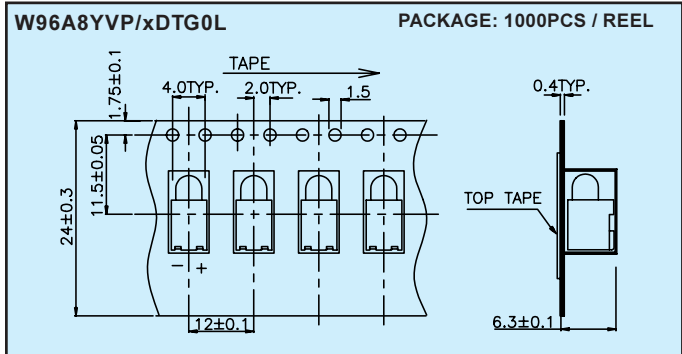
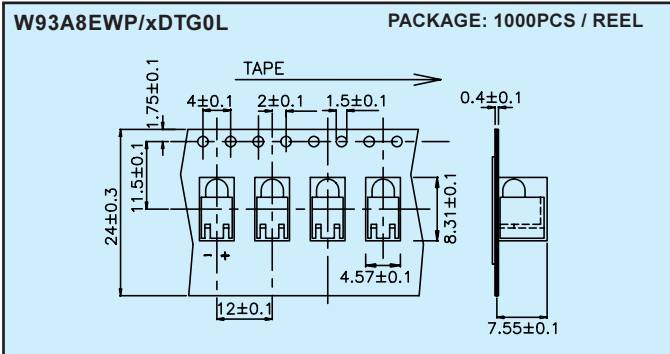
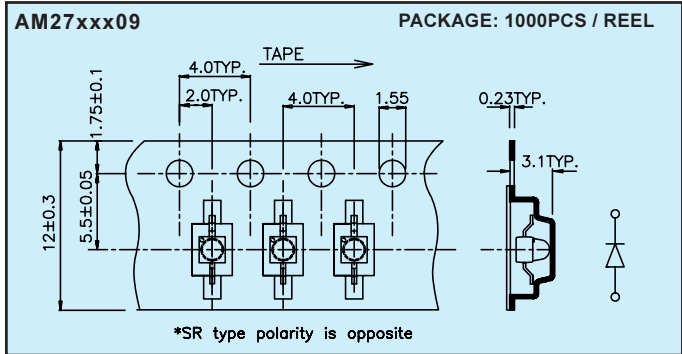
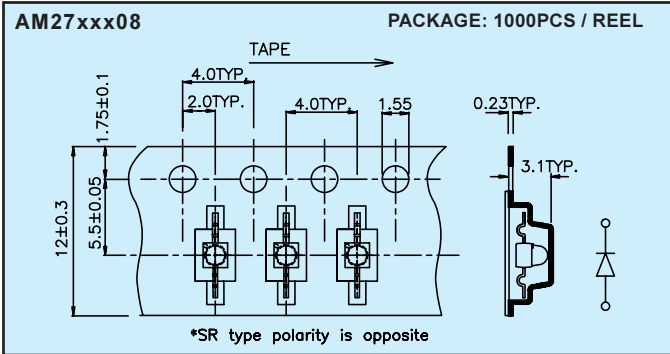
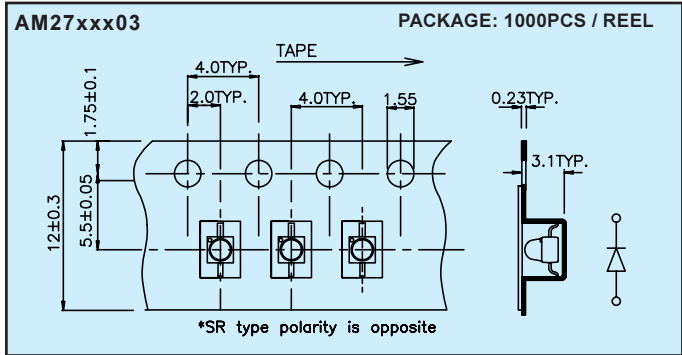
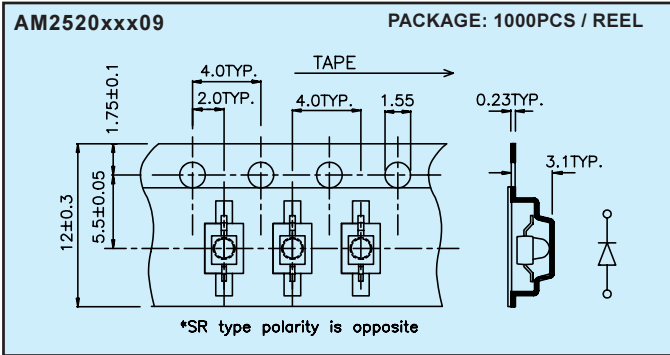
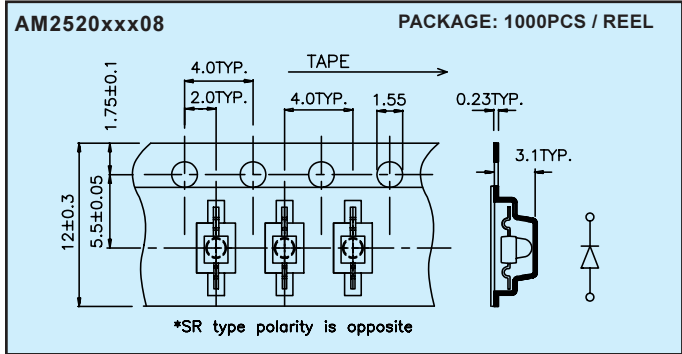
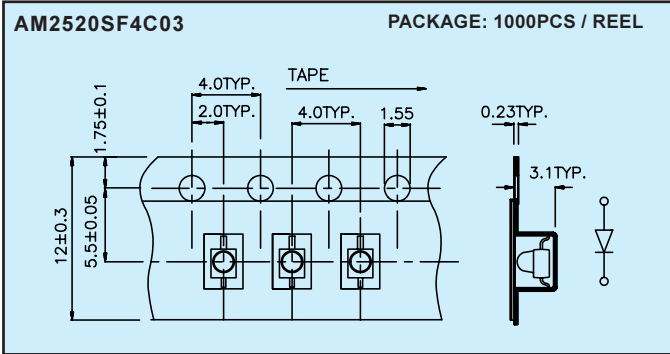
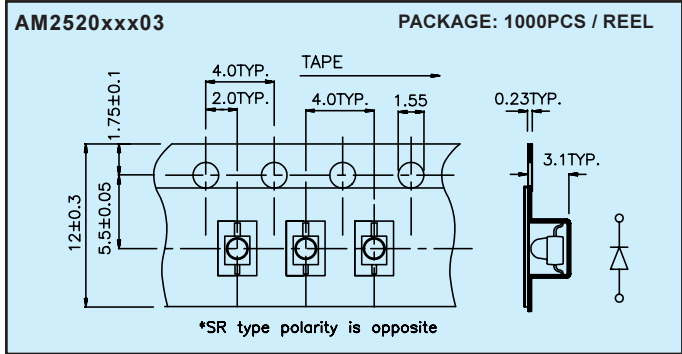
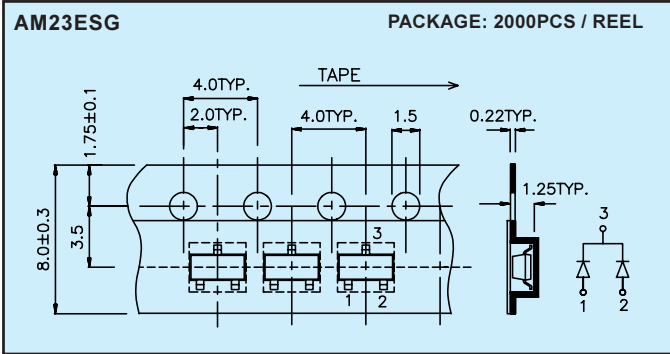
AAA3528 Full-Color PACKAGE: 1500PCS / REEL



AM23-F PACKAGE: 2000PCS / REEL

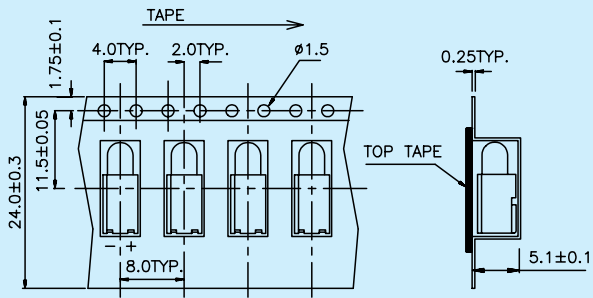


NOTES:
 1. All dimensions are in millimeters (inches).
 2. Tolerance is ±0.25mm (0.01") unless otherwise noted.

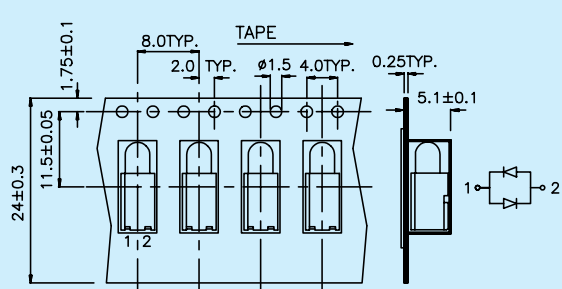


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 1. All dimensions are in millimeters (inches).
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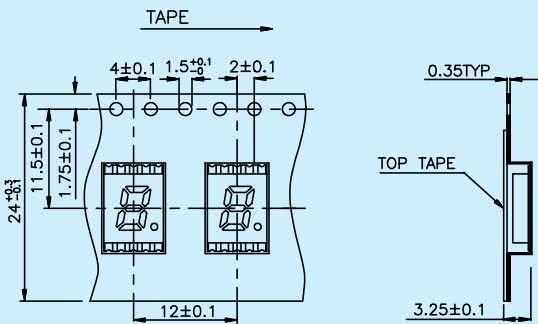
W138A8QMP/xD/TG PACKAGE: 1000PCS / REEL



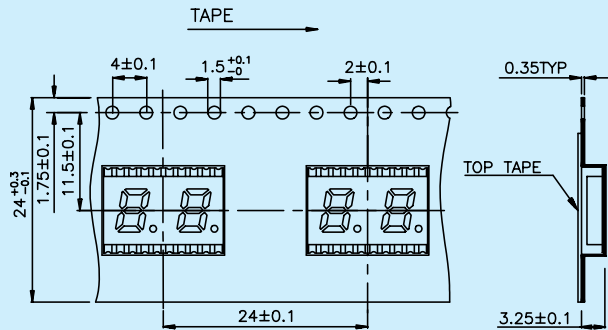
W1387QMP/ PACKAGE: 1000PCS / REEL



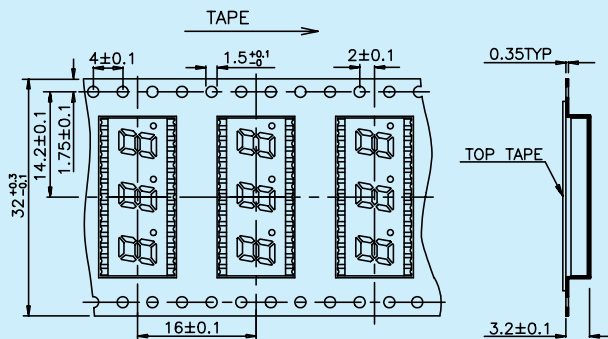
APSX02-41 PACKAGE: 1300PCS / REEL



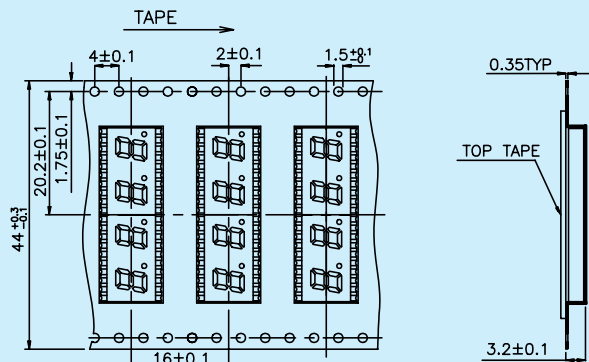
APDX02-41 PACKAGE: 600PCS / REEL



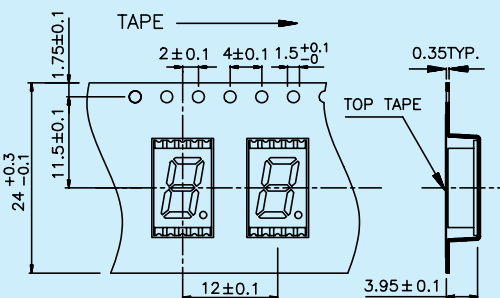
APBX02-41 PACKAGE: 1000PCS / REEL



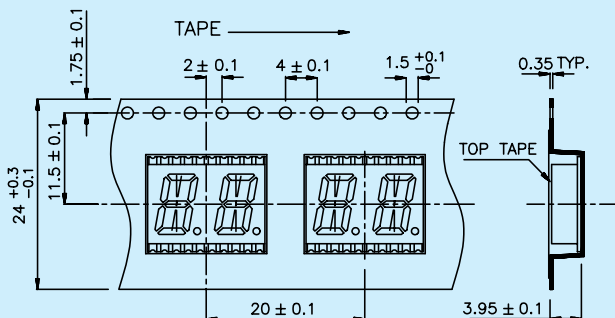
APCX02-41 PACKAGE: 1000PCS / REEL



APSX03-41 PACKAGE: 1100PCS / REEL

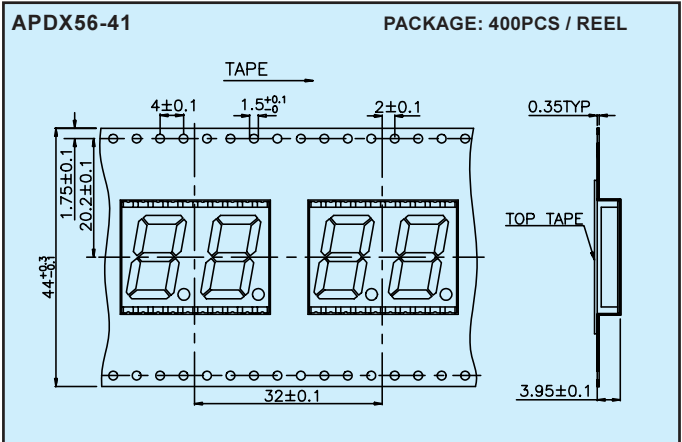
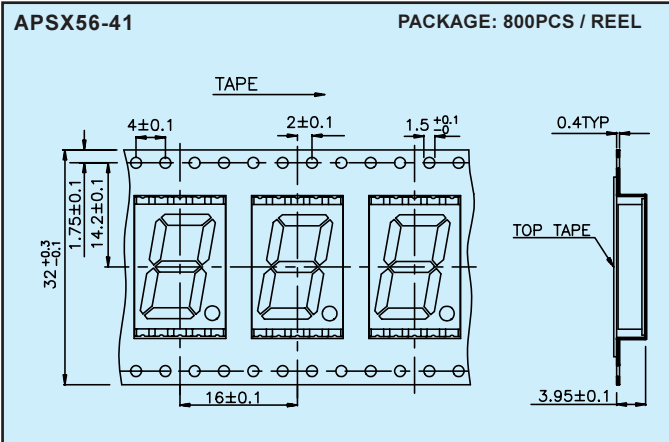
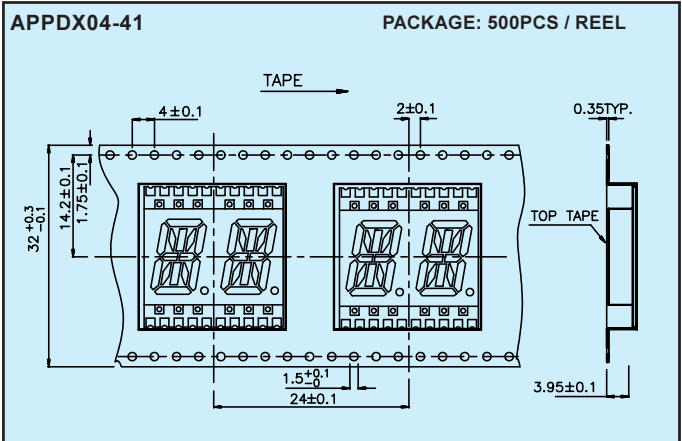
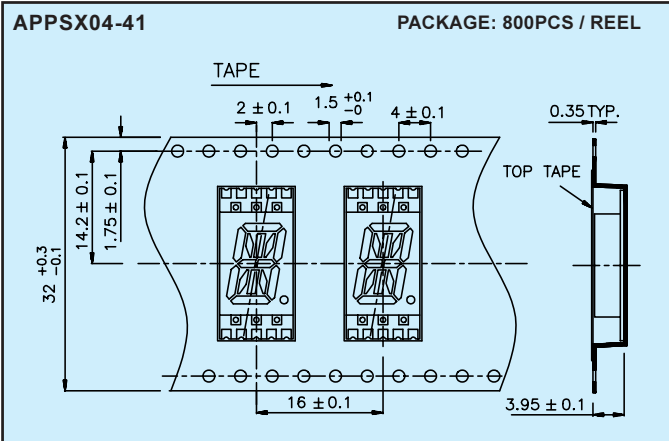
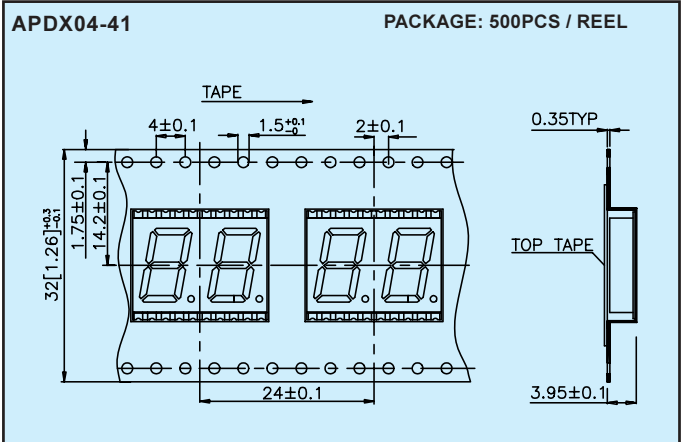
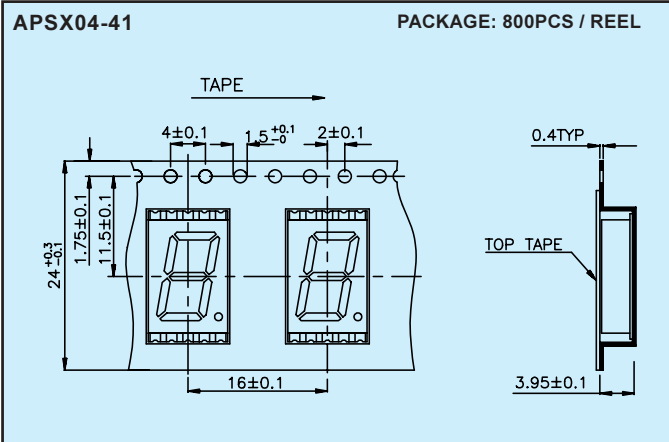
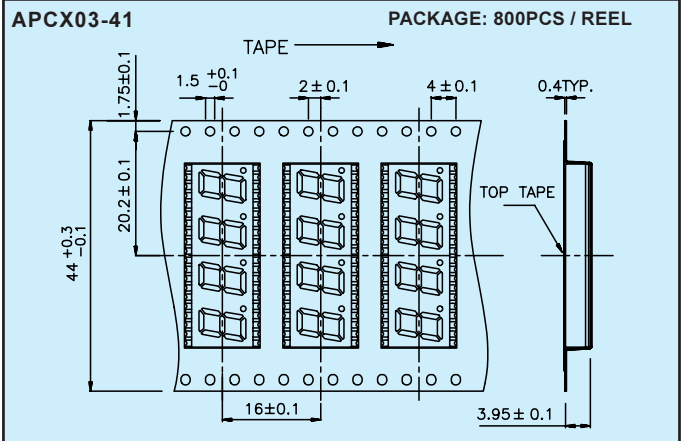
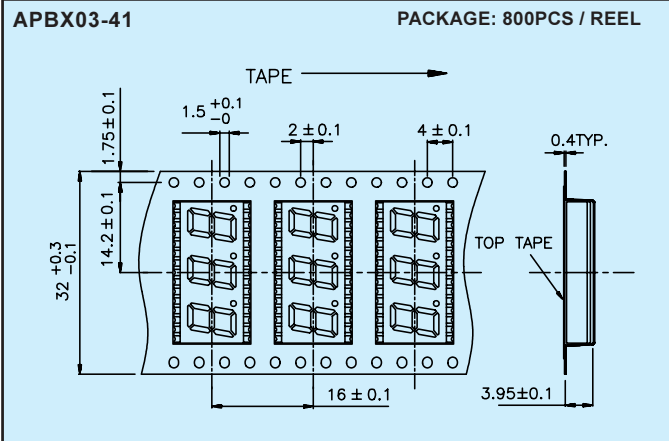


APDX03-41 PACKAGE: 600PCS / REEL



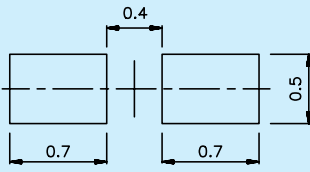
NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25\text{mm}$ (0.01") unless otherwise noted.

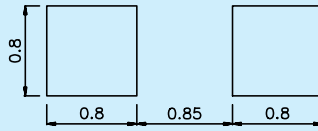


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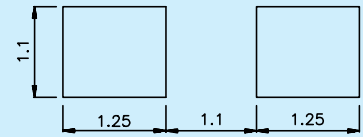
APHHS1005



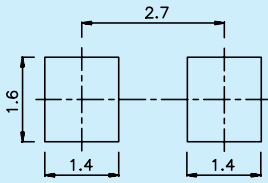
AP1608, APT1608



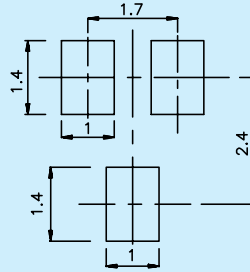
AP2012, APT2012, APTK2012
APTC2012



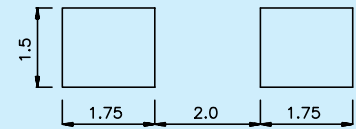
APE2712



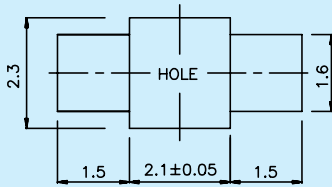
AP23



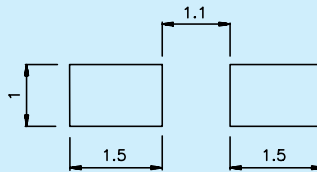
AP3216, APT3216, APC3216,
APTD3216, APK3216



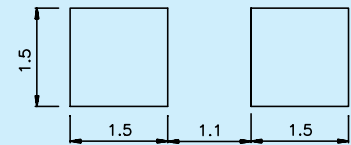
APTR3216



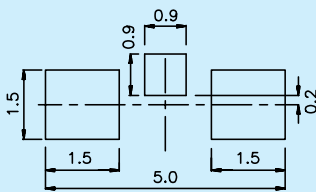
APA2106



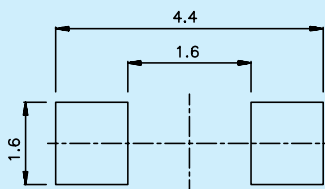
APJA2107



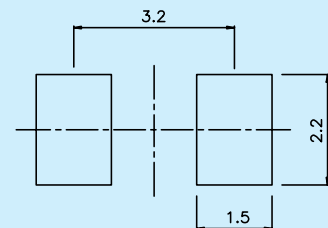
APA3010, APBA3010



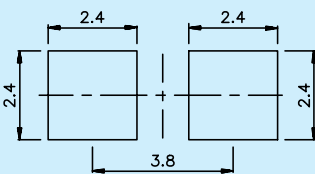
APL3015



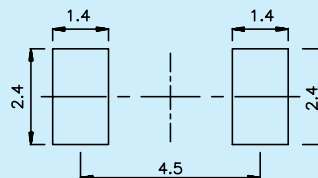
APD3224



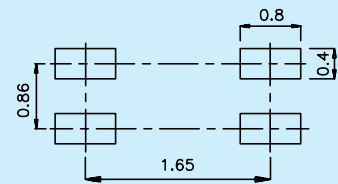
APED3820



APD2520xxx03

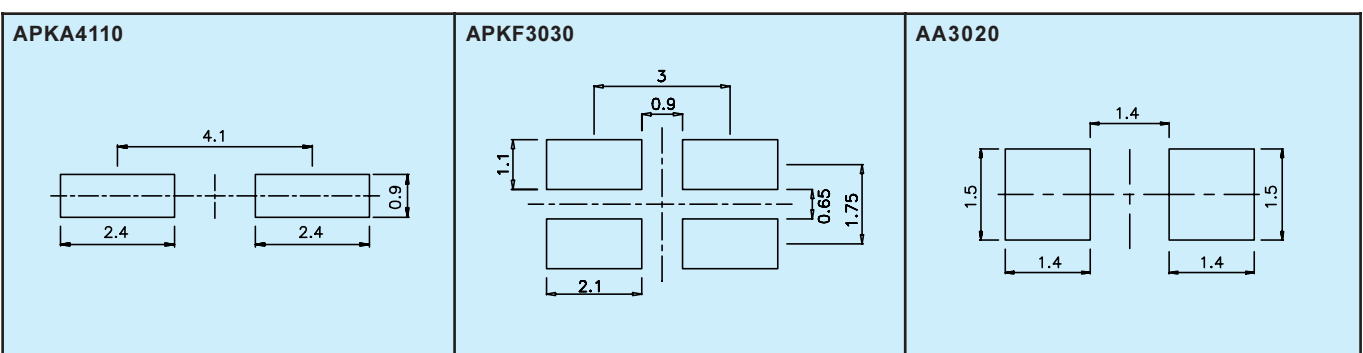
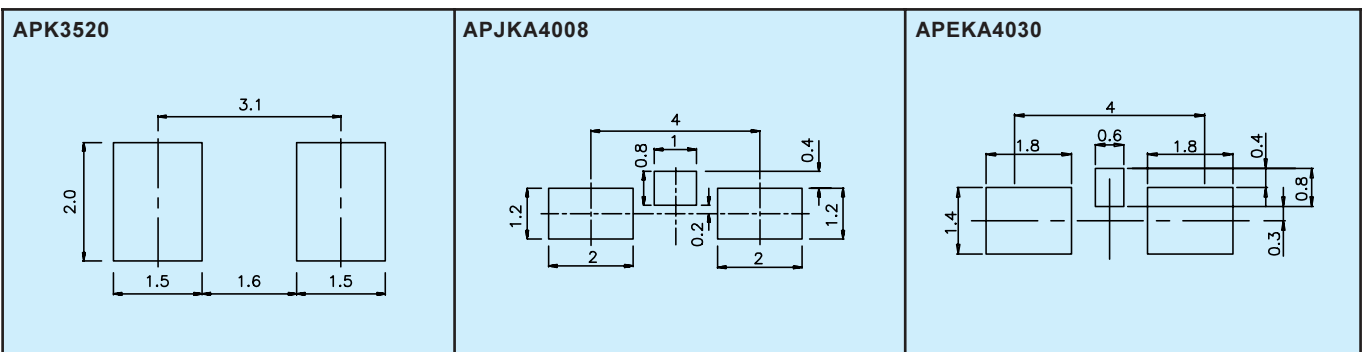
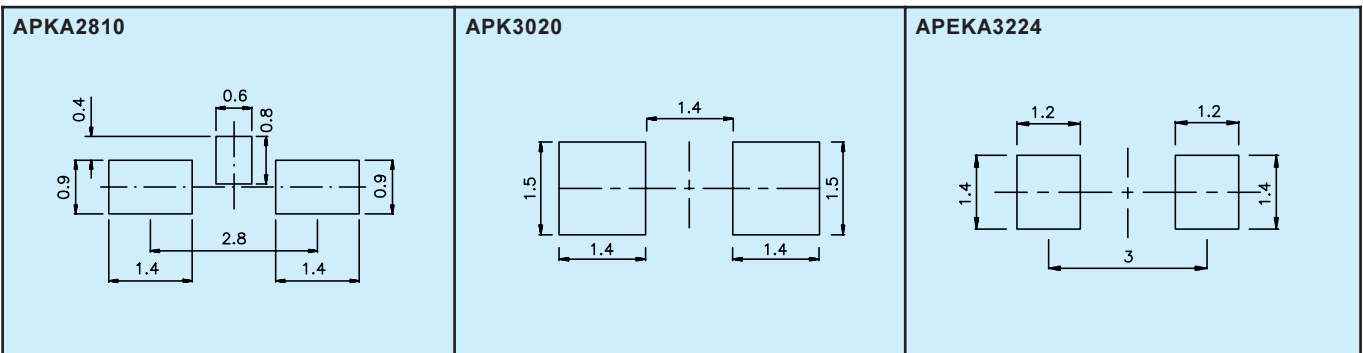
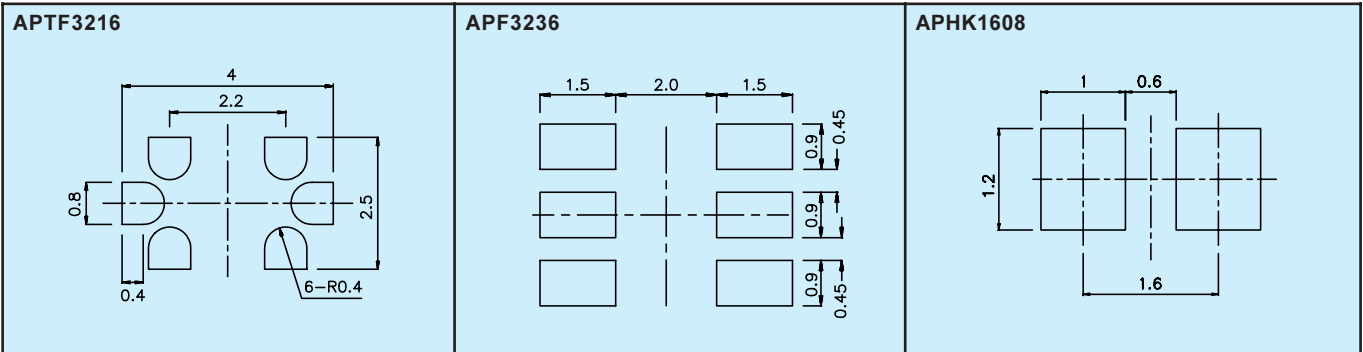
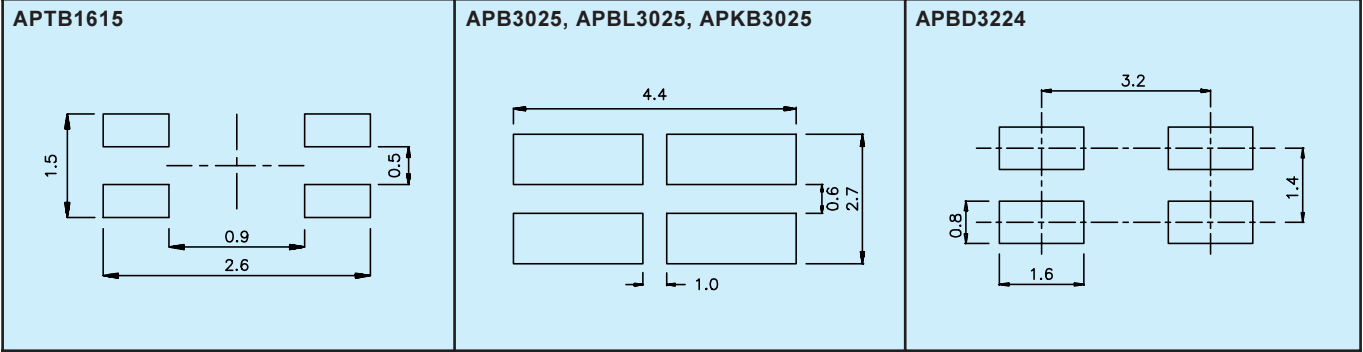


APT1612



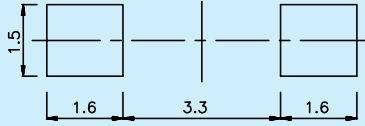
NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25\text{mm}$ ($0.01''$) unless otherwise noted.

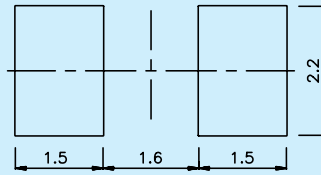


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 1. All dimensions are in millimeters(inches).
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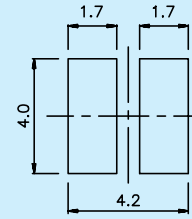
AA3022-4.5SF



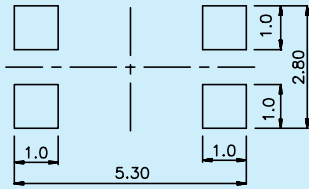
AA3528, APED3528



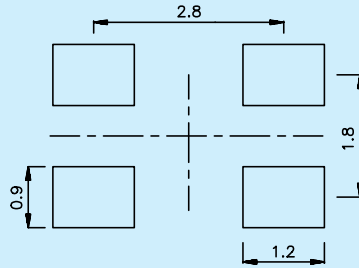
AA4040



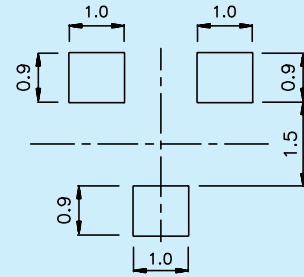
AA2734



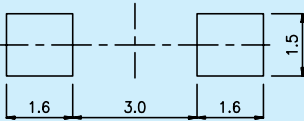
AAA3528



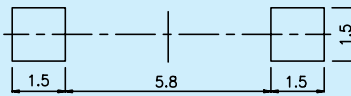
AM23-F



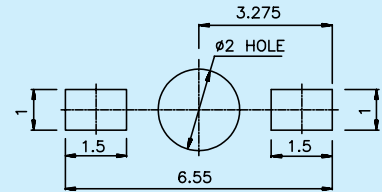
AM2520xxx03, AM27xxx03



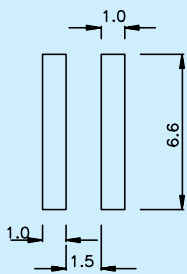
AM2520xxx08, AM27xxx08



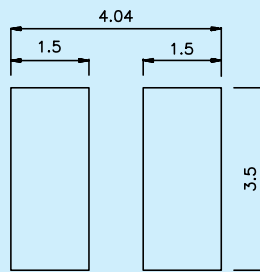
AM2520xxx09, AM27xxx09



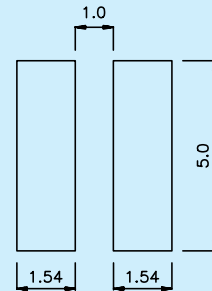
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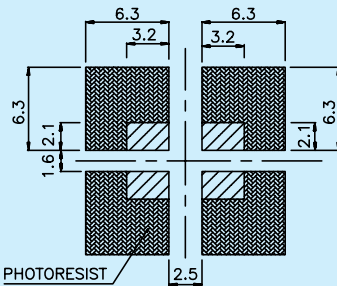
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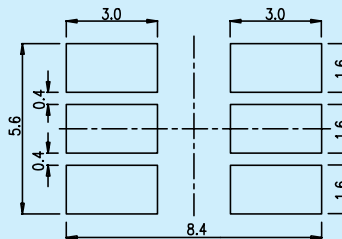
W138A8QMP/xD/TG, W1387QMP/



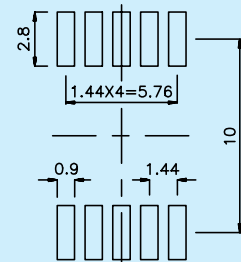
AA5060, AAA5060



AAAF5060

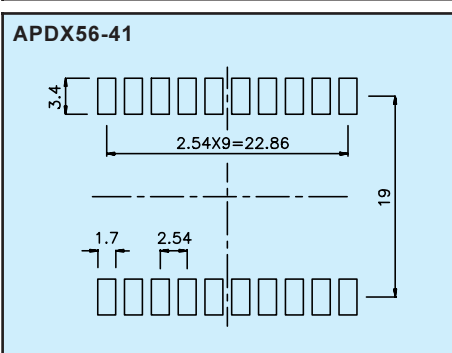
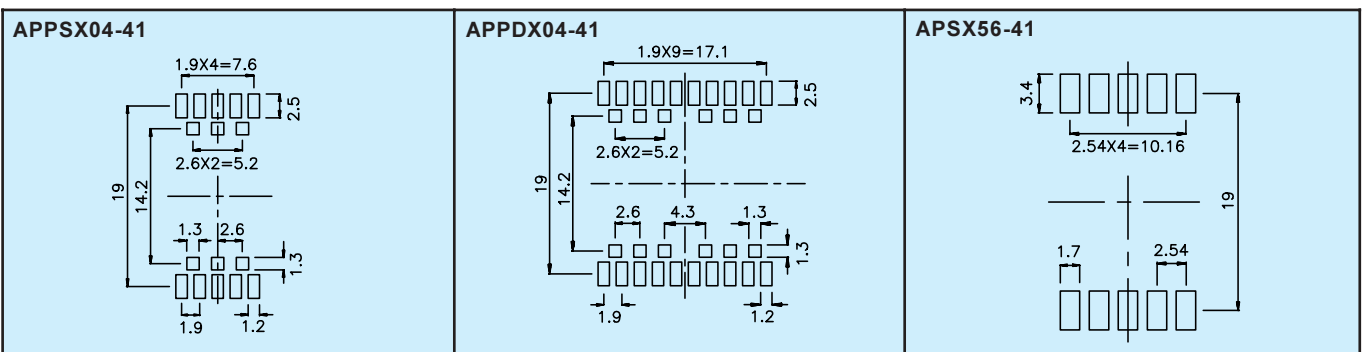
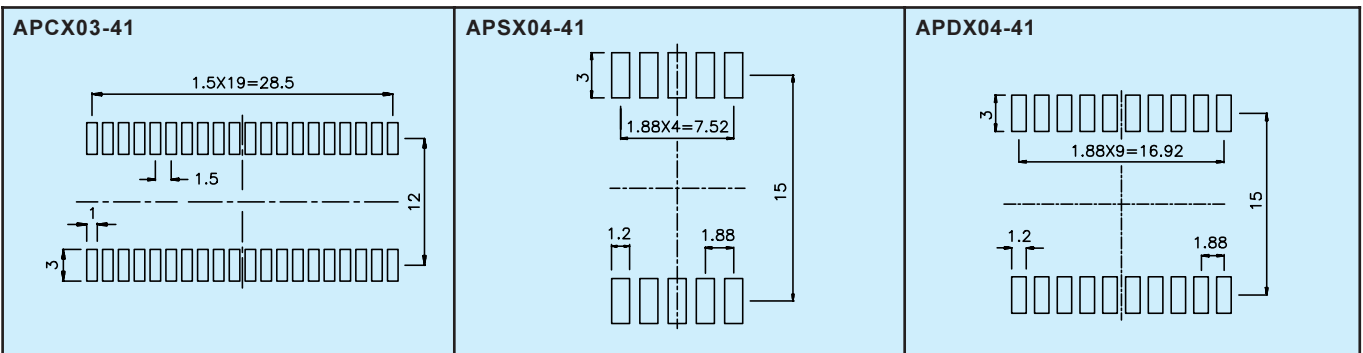
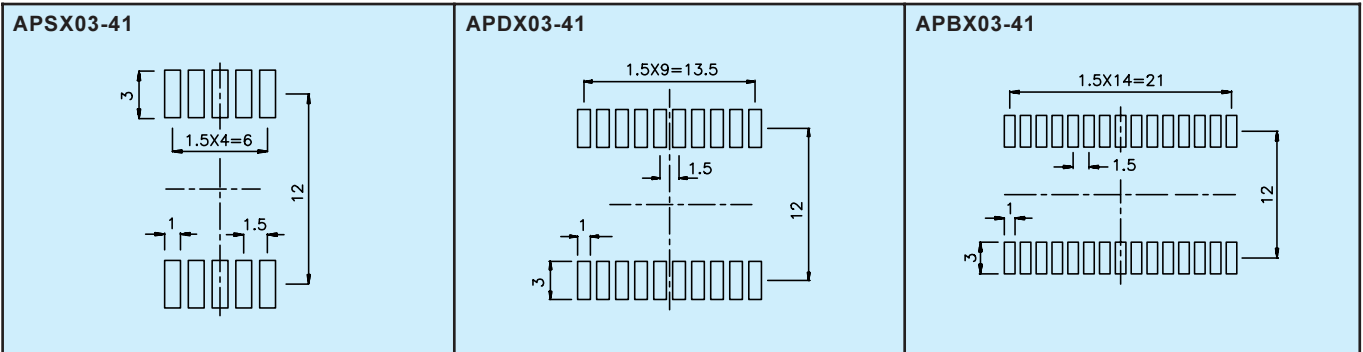
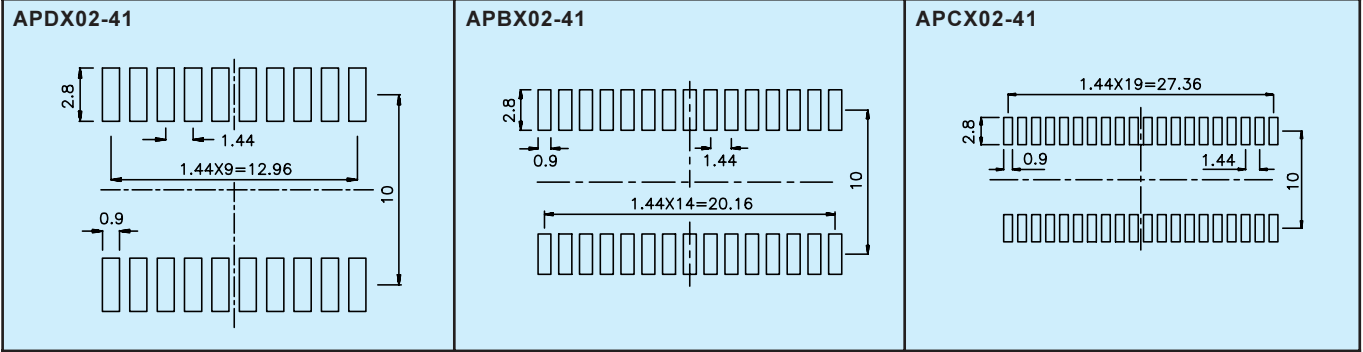


APSX02-41



NOTES:

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2003-2004

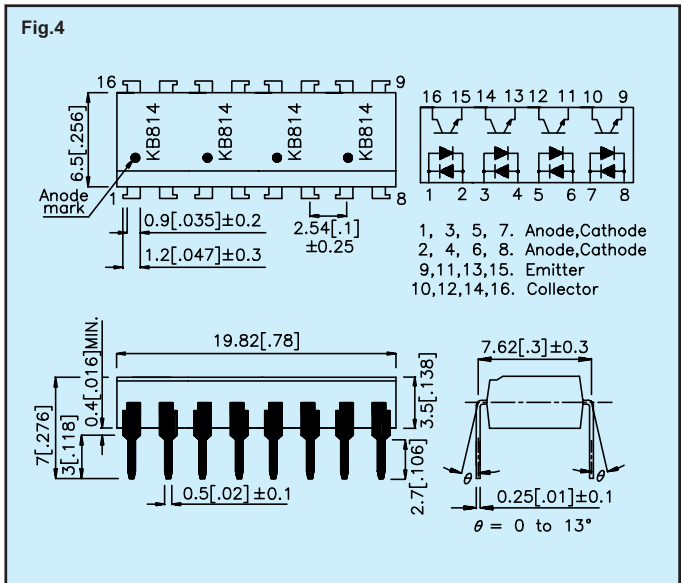
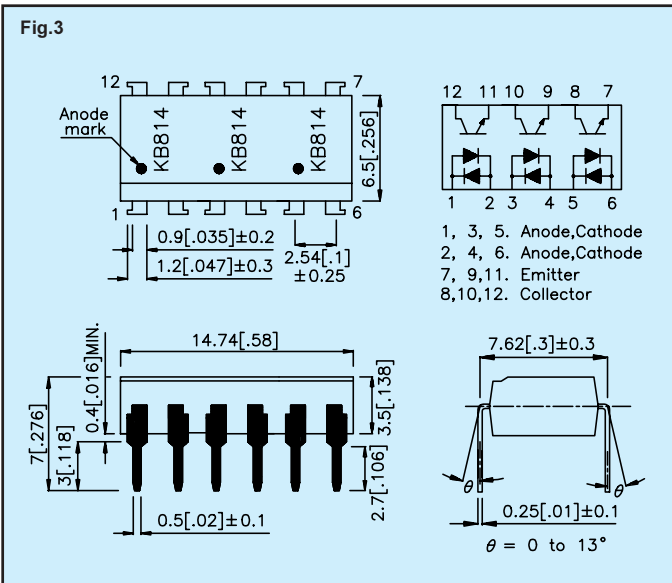
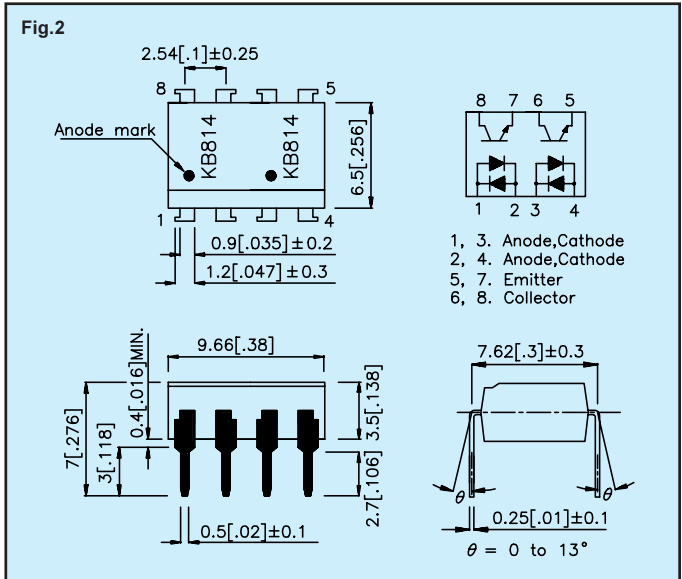
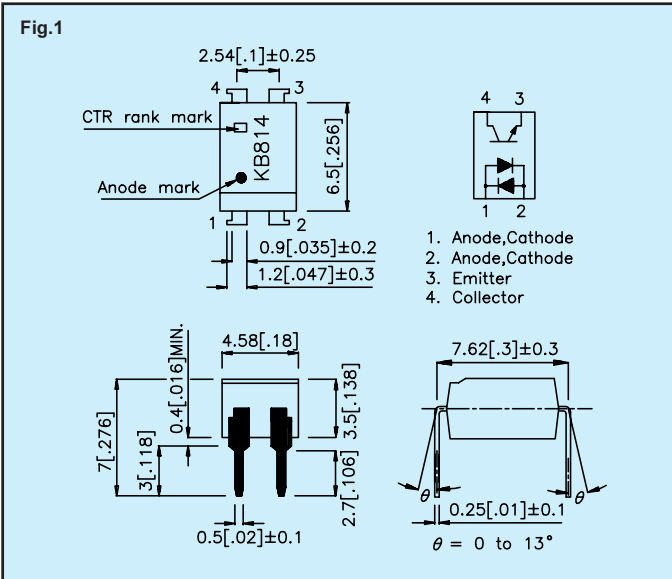


INDEX

- P2-8 PHOTOCOUPLERS
- P9 PHOTO REFLECTIVE SENSORS
- P10-12 PHOTO INTERRUPTERS



Part No.	Features	Absolute Maximum Ratings			Electrical Characteristics						Fig.	
		Forward Current IF(mA)	Isolation Voltage(AC) Viso(Vrms)	Collector Emitter Voltage VCE0(V)	CTR(%)		V(s) (v)		Response time(μs) Typ.			Collector dark current ICE0(A) Max.
					IF=±1mA,VCE=5V	IF=±20mA,IC=1mA	VCE=2V,IC=2mA,RL=100Ω	tr	tf			
Min.	Max.	Typ.	Max.	tr	tf	Max.						
KB814	High isolation voltage AC input response	±50	5000	35	20	300	0.1	0.2	4	3	10 ⁻⁷	1
KB824												2
KB834												3
KB844												4

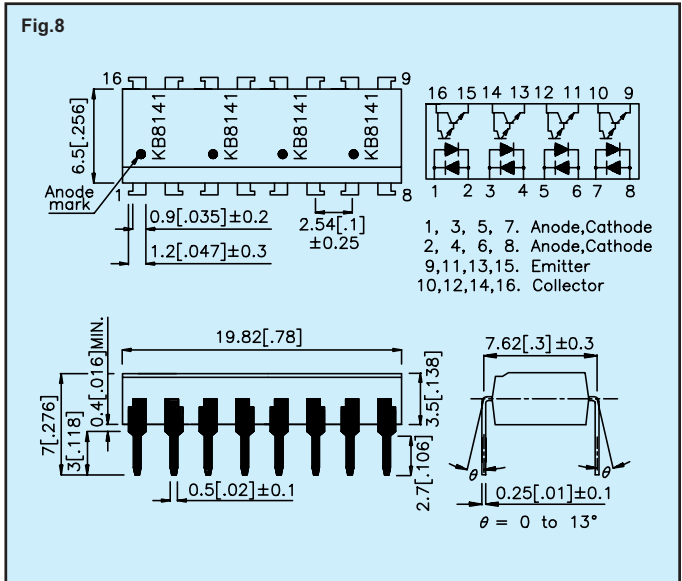
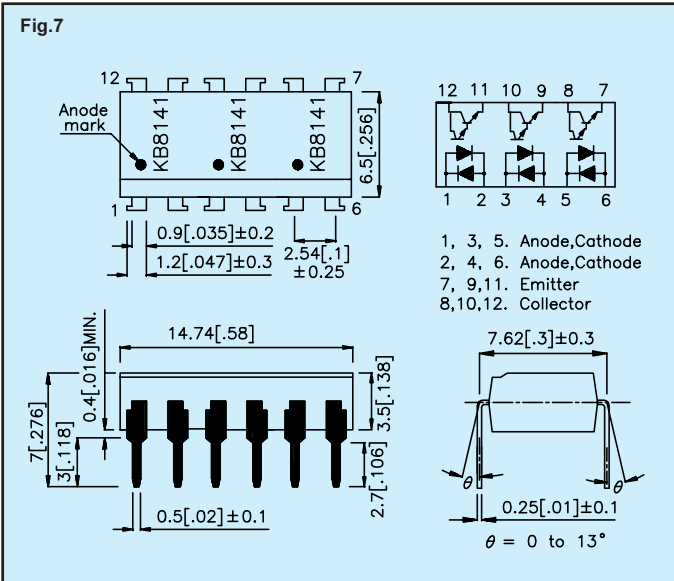
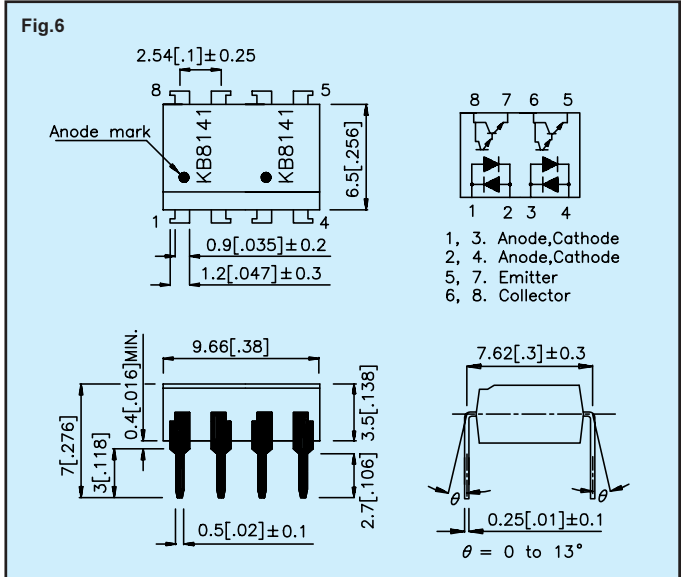
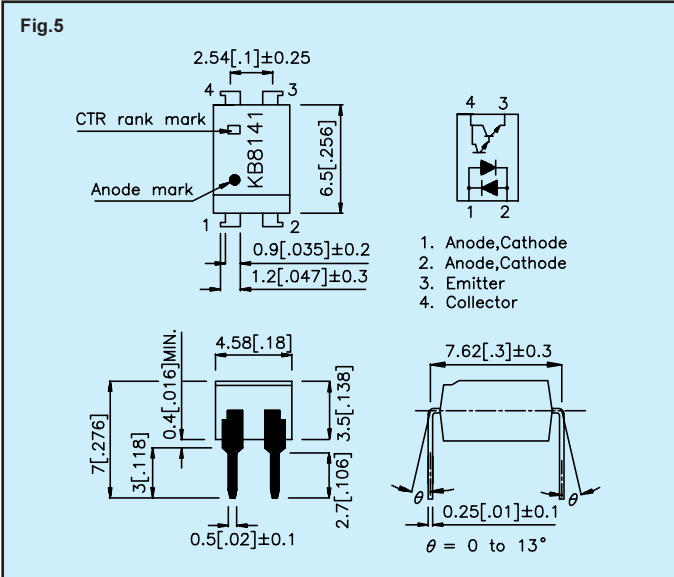


NOTES:
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 2. Tolerance is ±0.5mm(0.02") unless otherwise noted.
 3. UL approved(No.E225308)



Part No.	Features	Absolute Maximum Ratings			Electrical Characteristics							Fig.
		Forward Current IF(mA)	Isolation Voltage(AC) Viso(Vrms)	Collector Emitter Voltage VCE0(V)	CTR(%)		V(s) (v)		Response time(μs) Typ.		Collector dark current ICE0(A) Max.	
					IF=±1mA,VCE=2V	IF=±20mA,IC=5mA	VCE=2V,IC=10mA,RL=100Ω	tr	tf			
Min.	Max.	Typ.	Max.									

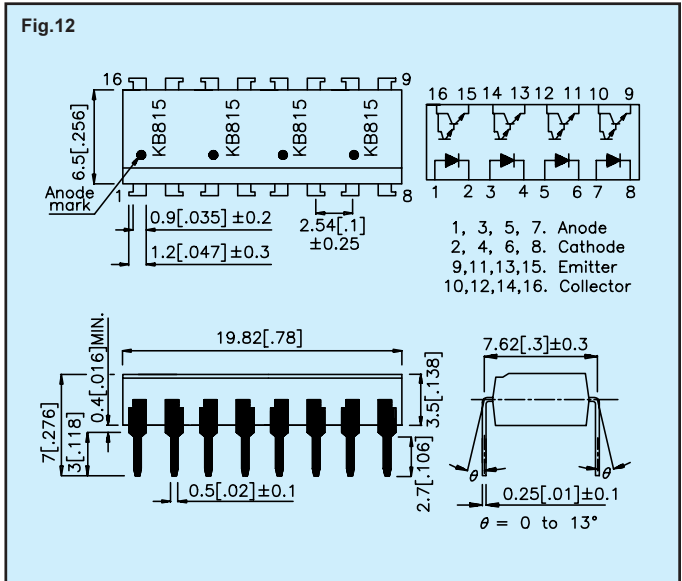
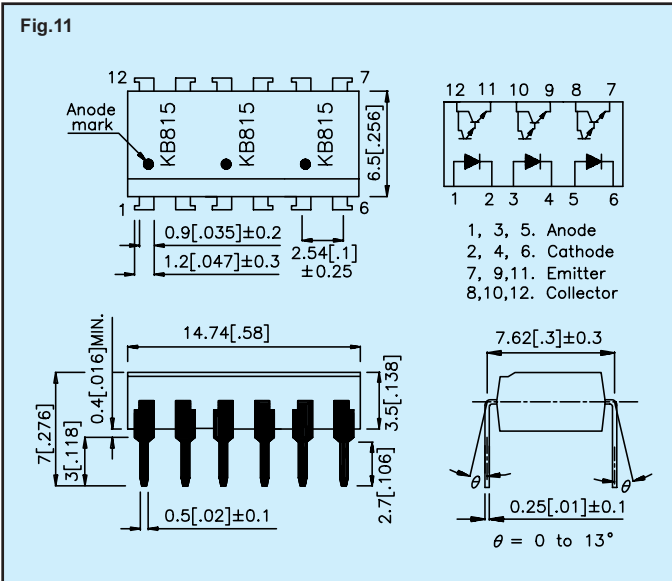
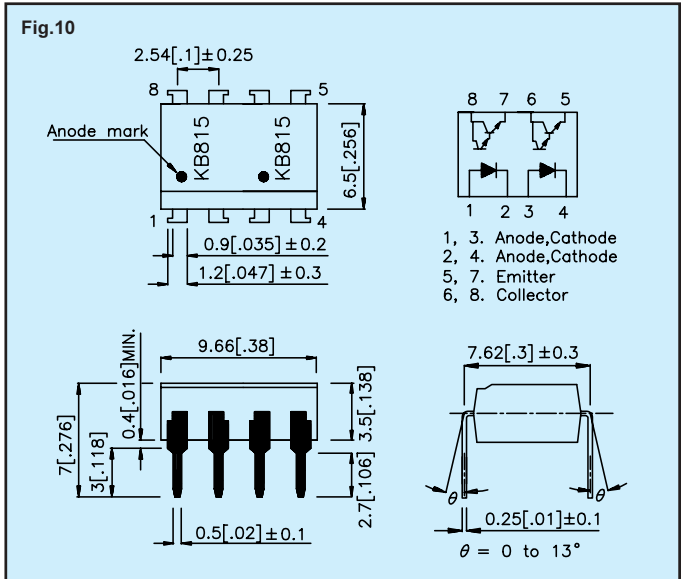
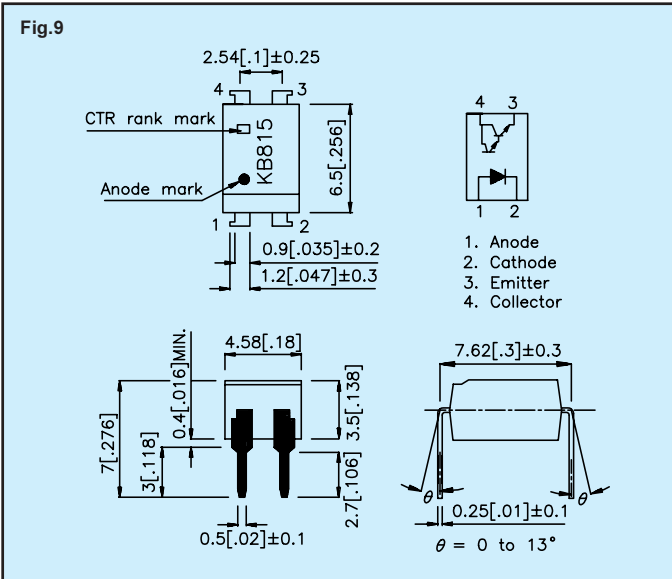
KB8141	High sensitivity AC input response	± 50	5000	35	600	7500	0.8	1	60	53	10 ⁻⁶	5
KB8241												6
KB8341												7
KB8441												8



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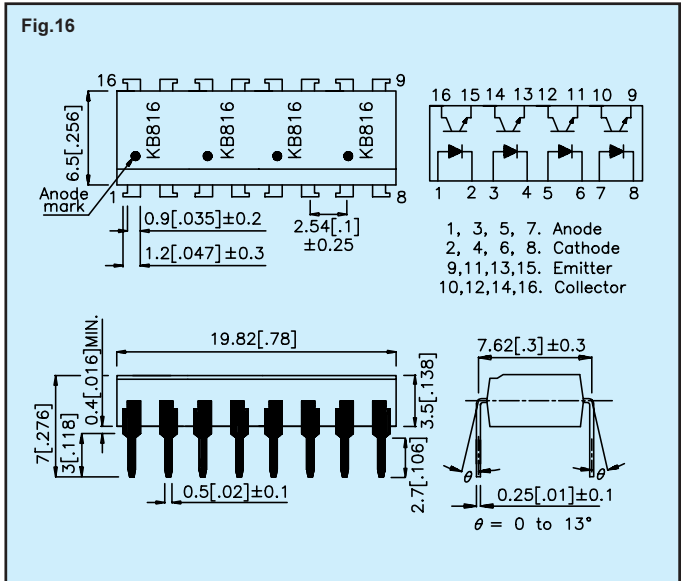
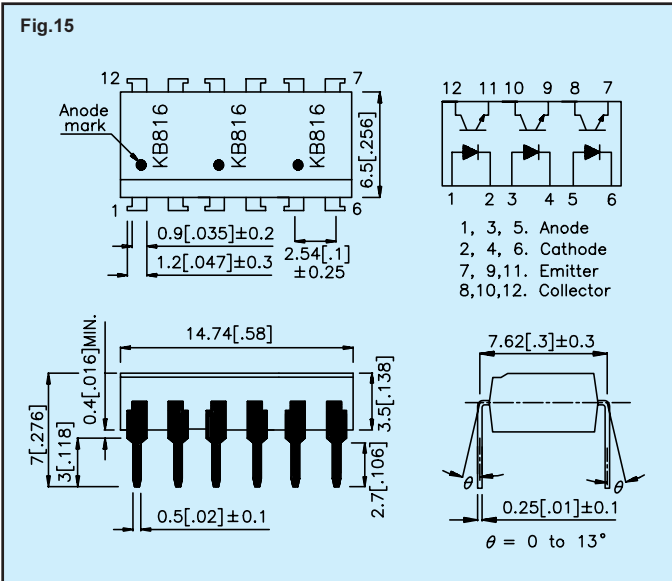
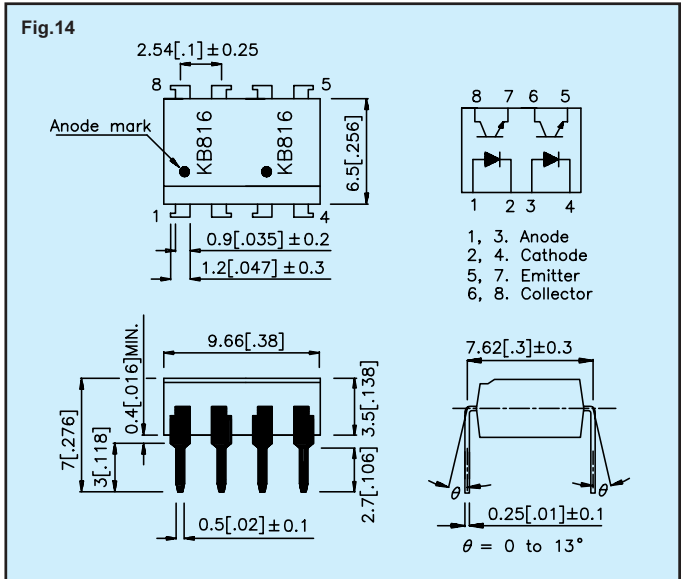
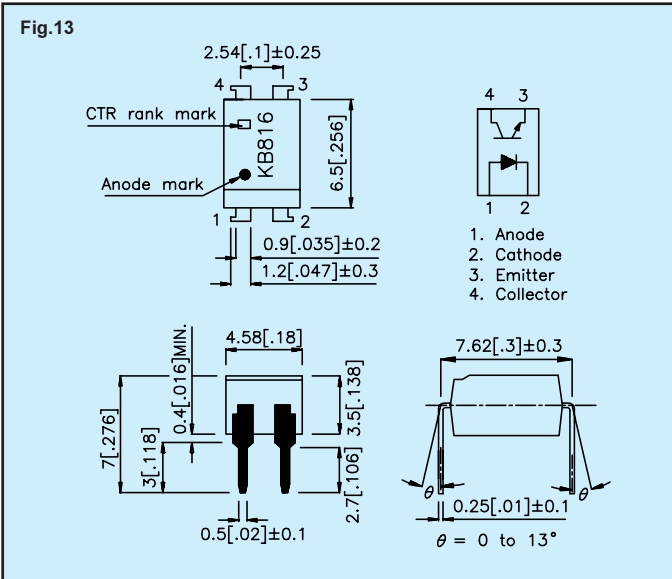
Part No.	Features	Absolute Maximum Ratings			Electrical Characteristics							Fig.
		Forward Current I _F (mA)	Isolation Voltage(AC) Viso(Vrms)	Collector Emitter Voltage V _{CEO} (V)	CTR(%)		V(s) (v)		Response time(μs) Typ.		Collector dark current I _{CEO} (A) Max.	
					I _F =1mA, V _{CE} =2V	I _F =20mA, I _C =5mA	V _{CE} =2V, I _C =10mA, R _L =100Ω	tr	tf			
KB815	High isolation voltage High sensitivity	50	5000	35	600	7500	0.8	1	60	53	10 ⁻⁶	9
KB825												10
KB835												11
KB845												12



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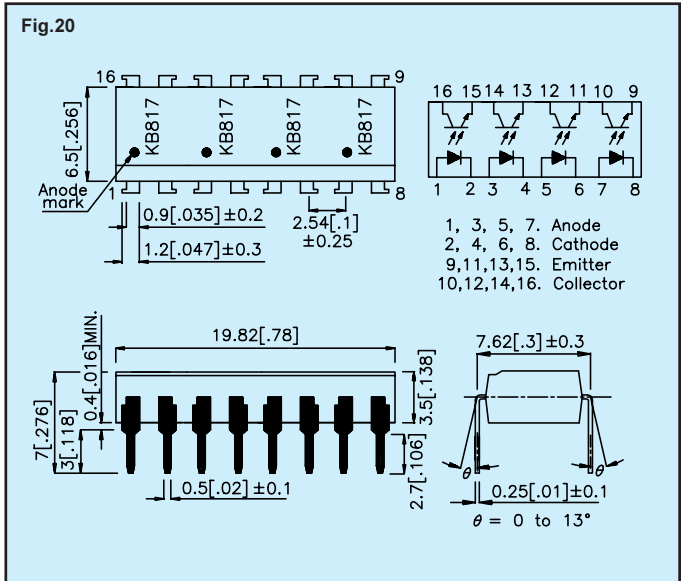
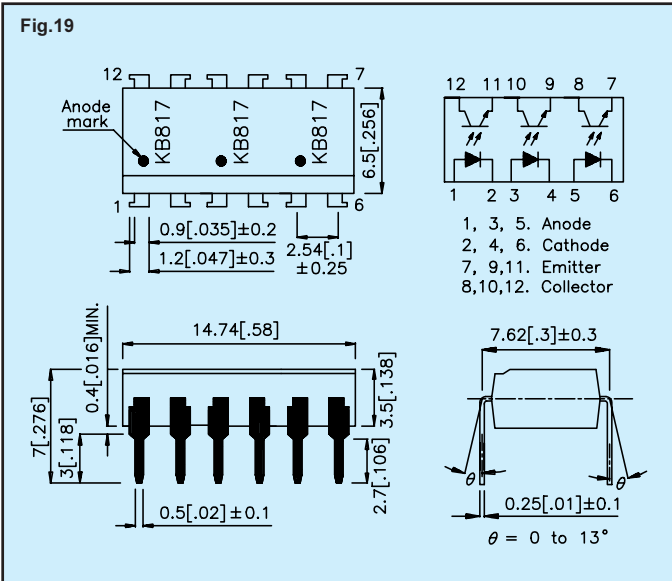
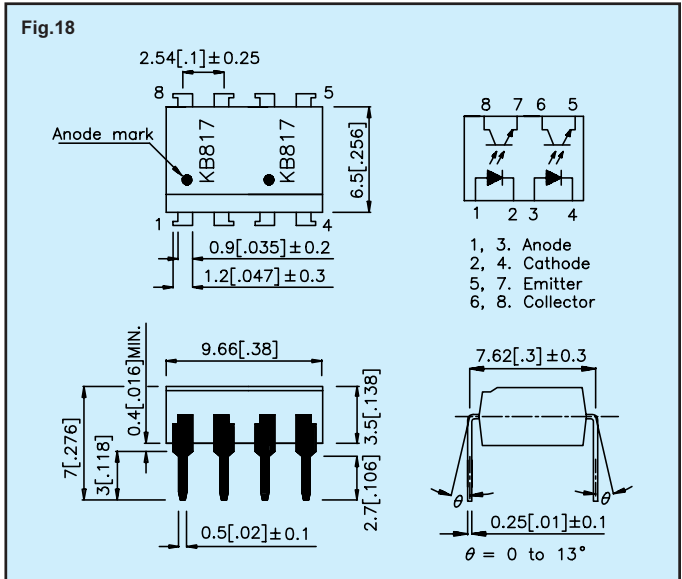
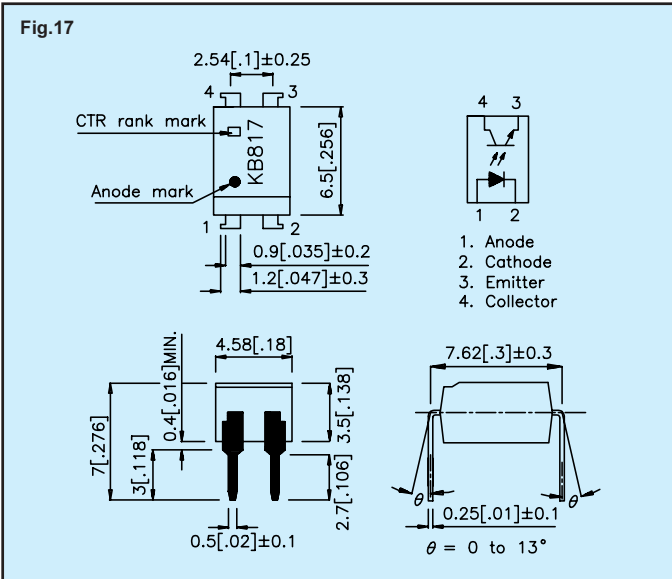
Part No.	Features	Absolute Maximum Ratings			Electrical Characteristics						Fig.	
		Forward Current I _F (mA)	Isolation Voltage(AC) Viso(Vrms)	Collector Emitter Voltage V _{CEO} (V)	CTR(%)		V(s) (v)		Response time(μs) Typ.			Collector dark current I _{CEO} (A) Max.
					I _F =5mA, V _{CE} =5V	I _F =20mA, I _C =1mA	V _{CE} =2V, I _C =2mA, R _L =100Ω	tr	tf			
Min.	Max.	Typ.	Max.	tr	tf							
KB816	High isolation voltage High collector-emitter voltage	50	5000	70	50	600	0.1	0.2	4	3	10 ⁻⁷	13
KB826												14
KB836												15
KB846												16



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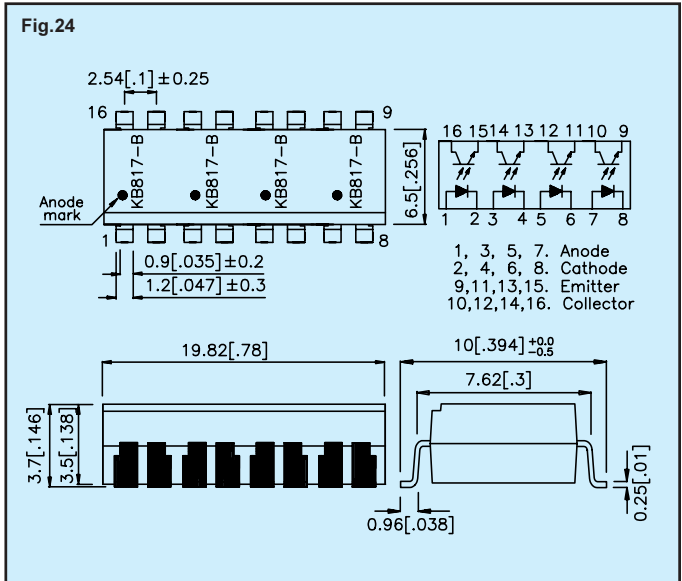
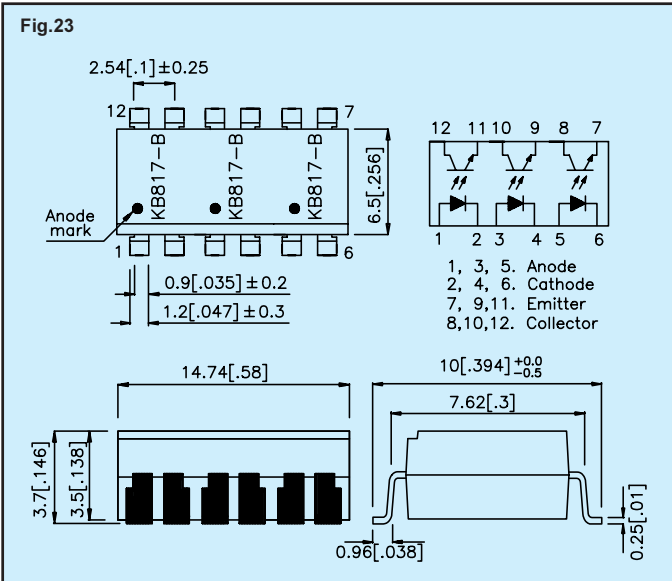
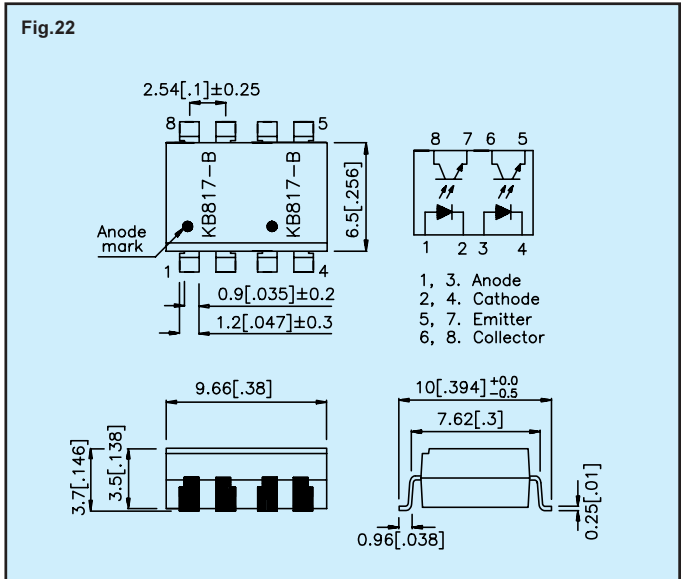
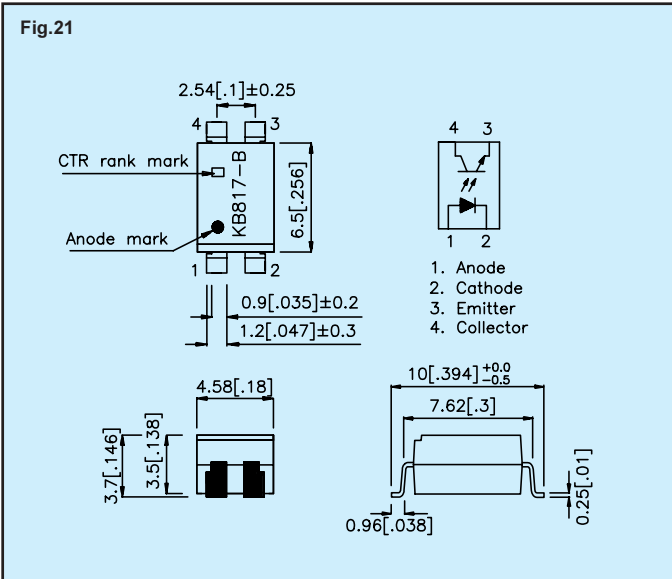
Part No.	Features	Absolute Maximum Ratings			Electrical Characteristics							Fig.
		Forward Current I _F (mA)	Isolation Voltage(AC) Viso(Vrms)	Collector Emitter Voltage V _{CEO} (V)	CTR(%)		V(s) (v)		Response time(μs) Typ.		Collector dark current I _{CEO} (A) Max.	
					I _F =5mA, V _{CE} =5V	I _F =20mA, I _C =1mA	V _{CE} =2V, I _C =2mA, R _L =100Ω	tr	tf			
Min.	Max.	Typ.	Max.	tr	tf	Max.						
KB817	High isolation voltage	50	5000	35	50	600	0.1	0.2	4	3	10 ⁻⁷	17
KB827												18
KB837												19
KB847												20



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 3. UL approved(No.E225308)



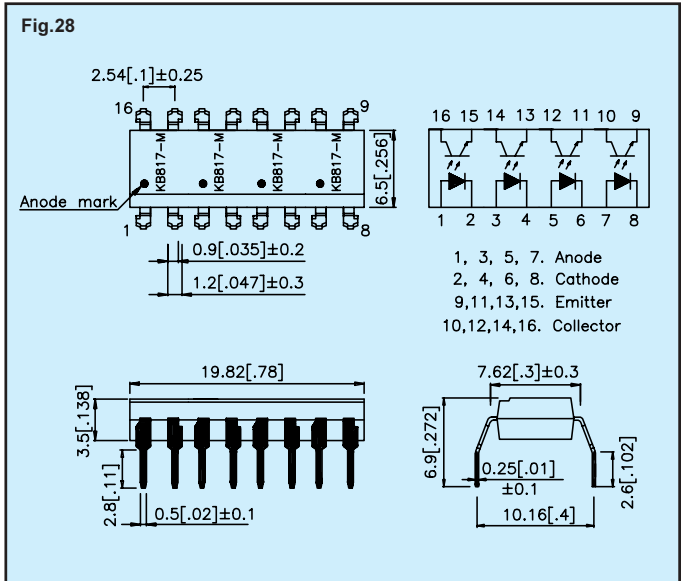
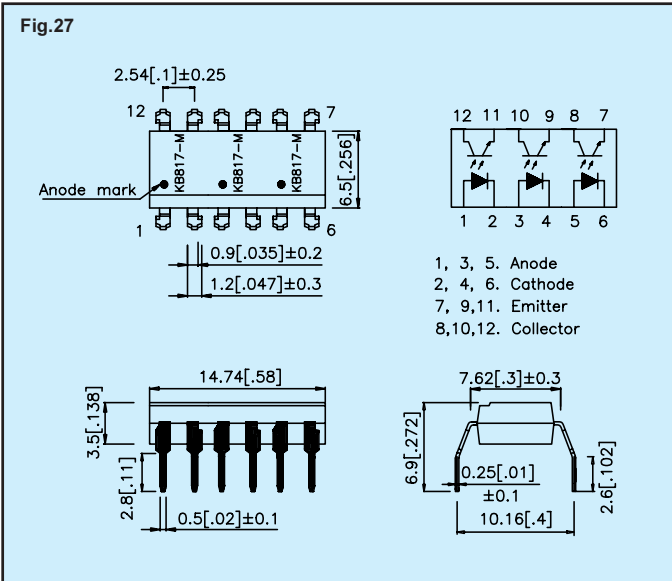
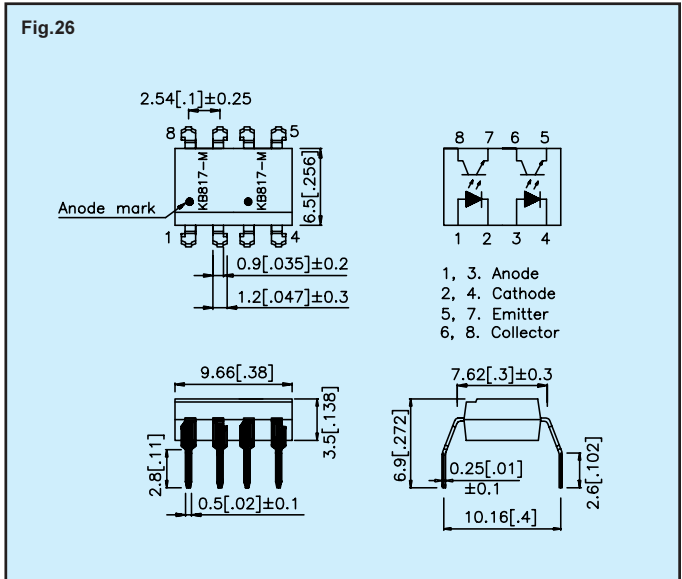
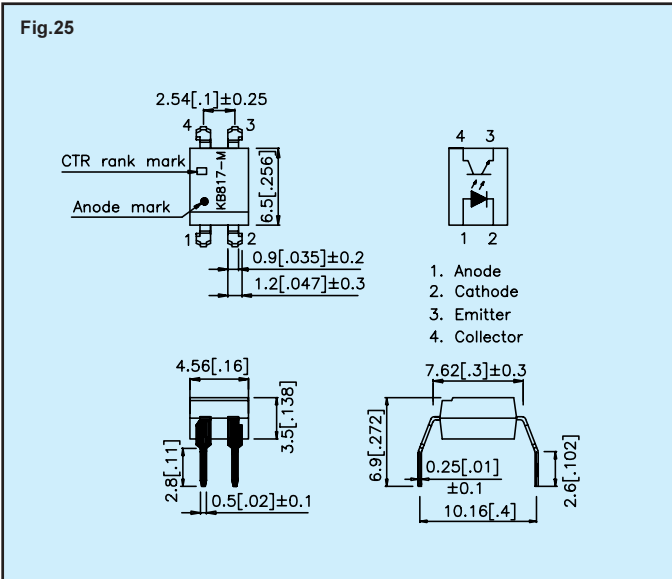
Part No.	Features	Absolute Maximum Ratings			Electrical Characteristics						Fig.	
		Forward Current I _F (mA)	Isolation Voltage(AC) Viso(Vrms)	Collector Emitter Voltage V _{CEO} (V)	CTR(%)		V(s) (v)		Response time(μs) Typ.			Collector dark current I _{CEO} (A) Max.
					I _F =5mA, V _{CE} =5V	I _F =20mA, I _C =1mA	V _{CE} =2V, I _C =2mA, R _L =100Ω	tr	tf			
Min.	Max.	Typ.	Max.	tr	tf							
KB817-B	High isolation voltage SMD Type	50	5000	35	50	600	0.1	0.2	4	3	10 ⁻⁷	21
KB827-B												22
KB837-B												23
KB847-B												24



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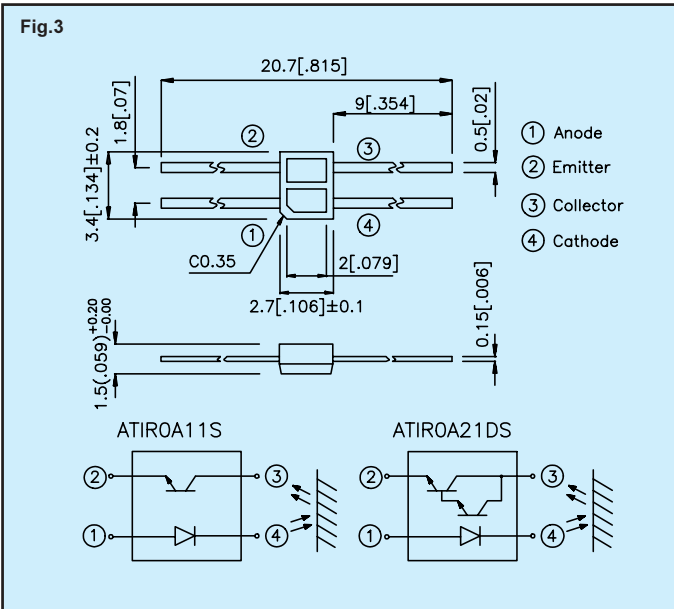
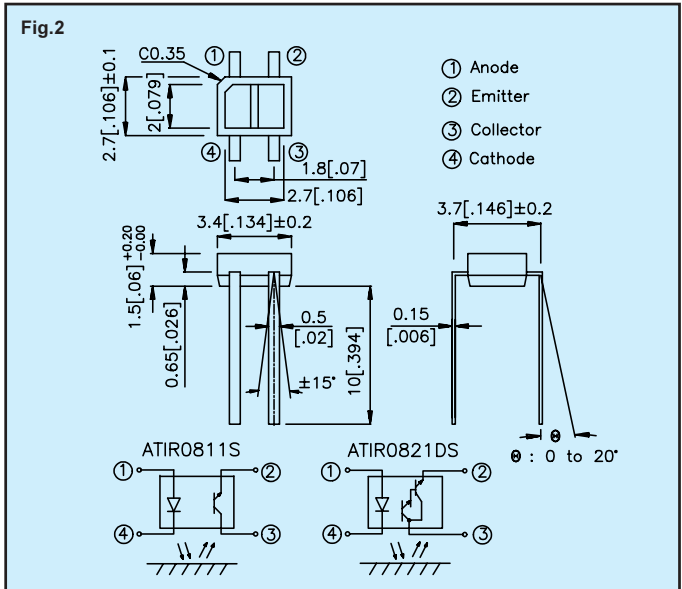
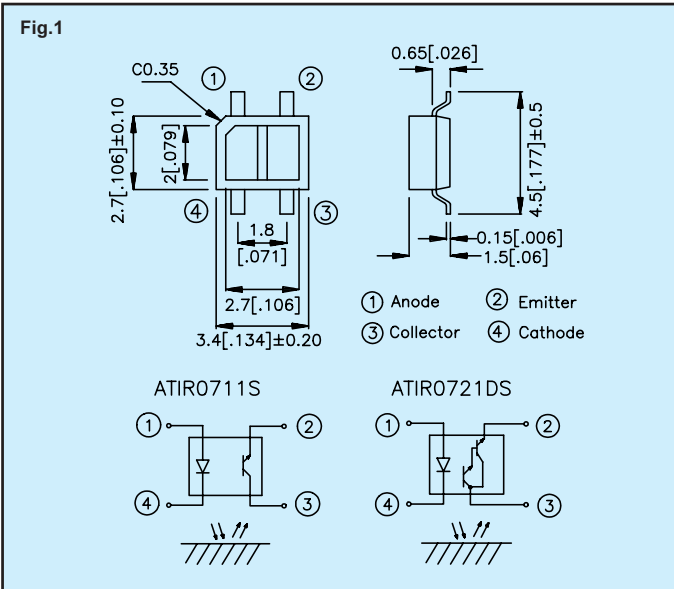
Part No.	Features	Absolute Maximum Ratings			Electrical Characteristics						Fig.	
		Forward Current I _F (mA)	Isolation Voltage(AC) Viso(Vrms)	Collector Emitter Voltage V _{CEO} (V)	CTR(%)		V(s) (v)		Response time(μs) Typ.			Collector dark current I _{CEO} (A) Max.
					I _F =5mA, V _{CE} =5V	I _F =20mA, I _C =1mA	V _{CE} =2V, I _C =2mA, R _L =100Ω	tr	tf			
Min.	Max.	Typ.	Max.	tr	tf							
KB817-M	High isolation voltage	50	5000	35	50	600	0.1	0.2	4	3	10 ⁻⁷	25
KB827-M												26
KB837-M												27
KB847-M												28



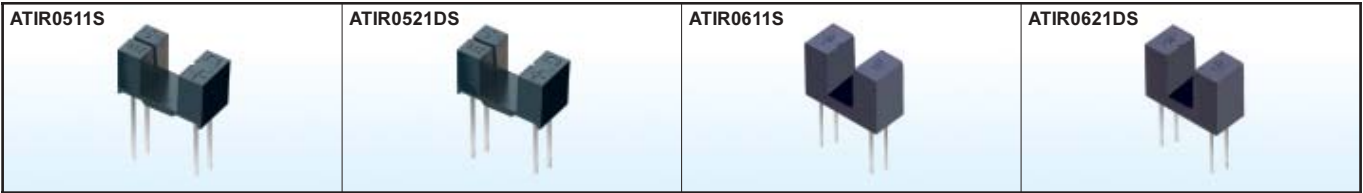
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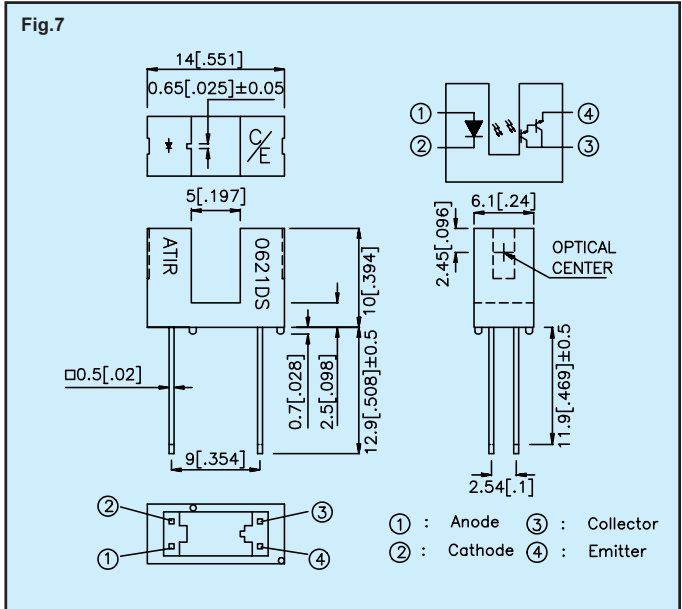
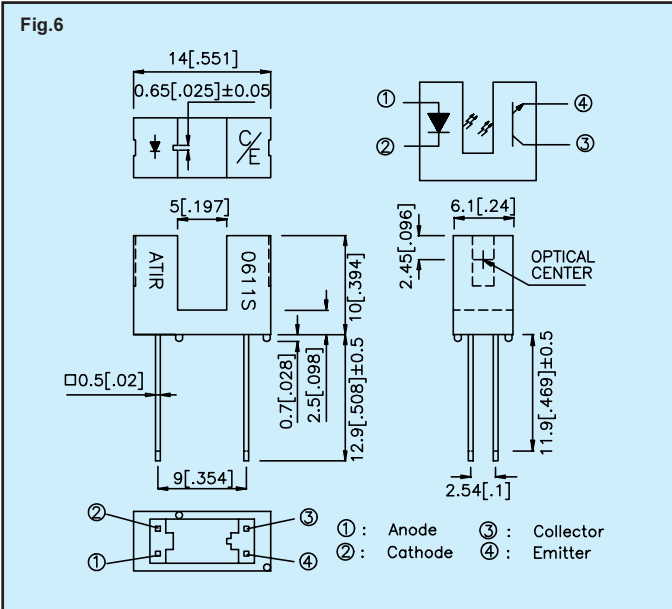
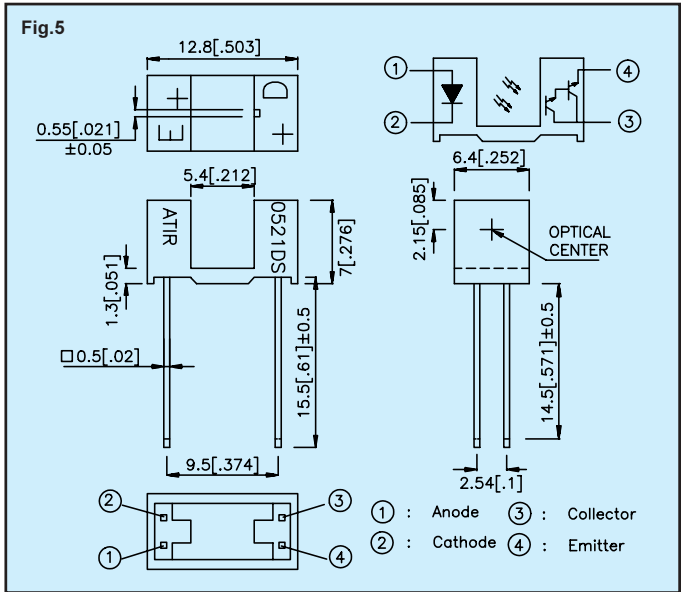
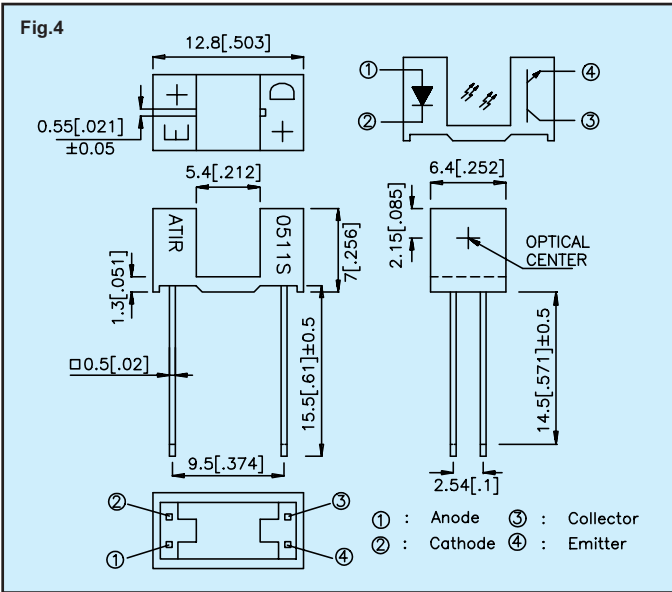
Part No.	Material	λ P (nm)	CTR		$V_{CE(SAT)}$			Rise Time (μ s) Typ.	Fall Time (μ s) Typ.	Fig.
			IF (mA)	Min.(%)	IF (mA)	IC (mA)	Max.(V)			
ATIR0711S	GaAs/SiC	940	4	0.5	-	-	-	20	20	1
ATIR0721DS	GaAs/SiC	940	4	8	-	-	-	80	70	
ATIR0811S	GaAs/SiC	940	4	0.5	-	-	-	20	20	2
ATIR0821DS	GaAs/SiC	940	4	8	-	-	-	80	70	
ATIR0A11S	GaAs/SiC	940	4	0.5	-	-	-	20	20	3
ATIR0A21DS	GaAs/SiC	940	4	8	-	-	-	80	70	



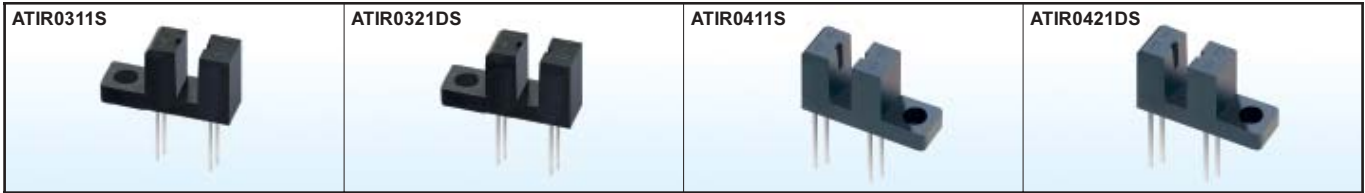
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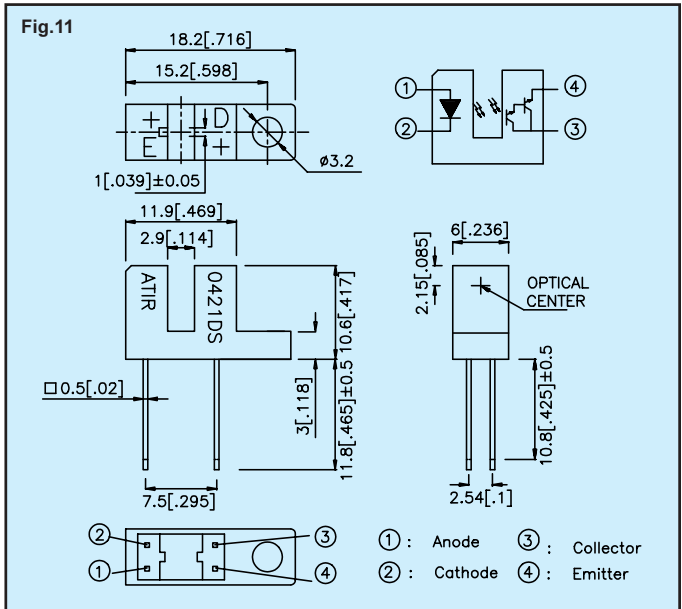
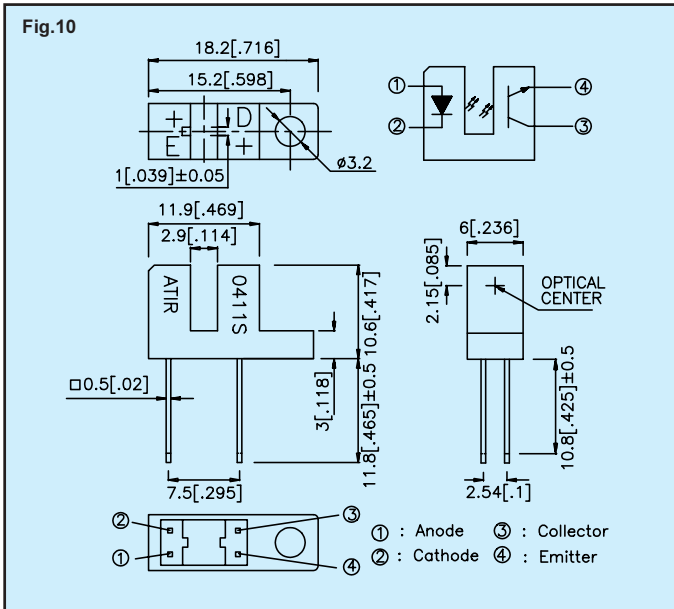
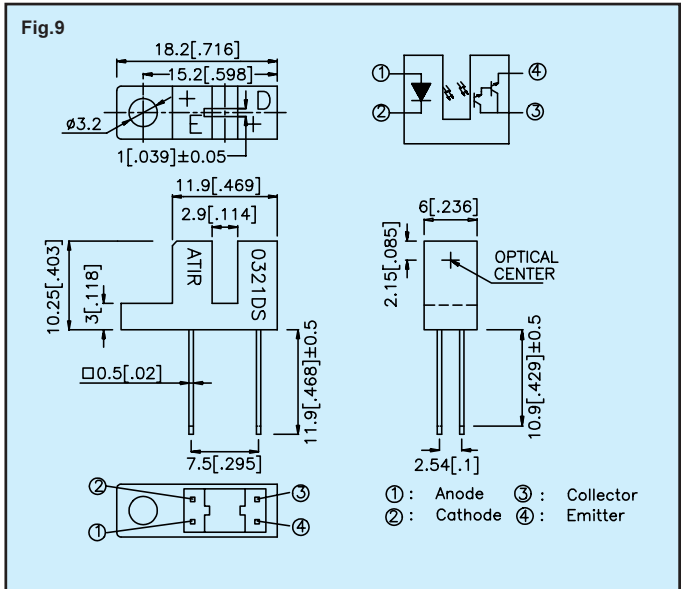
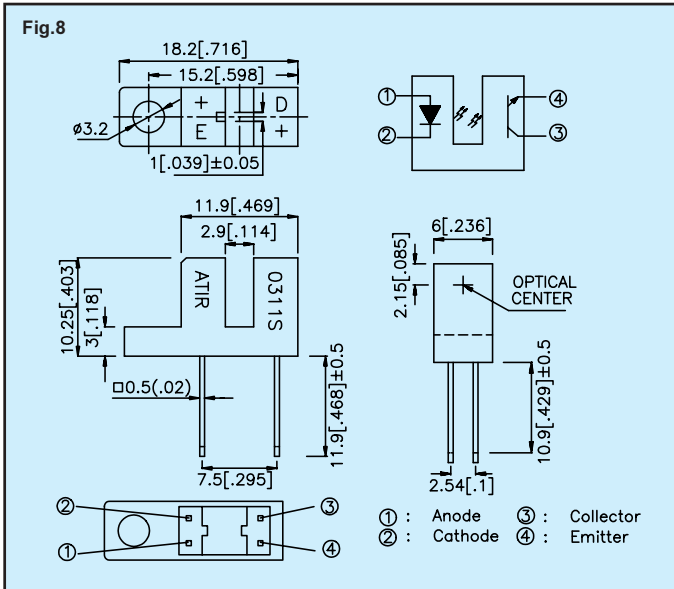
Part No.	Material	λ P (nm)	CTR		$V_{CE(SAT)}$			Rise Time (μ s) Typ.	Fall Time (μ s) Typ.	Fig.
			IF(mA)	Min.(%)	IF(mA)	IC(mA)	Max.(V)			
ATIR0511S	GaAs/SiC	940	20	2.5	20	0.5	0.4	20	20	4
ATIR0521DS	GaAs/SiC	940	1	50	2	0.5	1	80	70	5
ATIR0611S	GaAs/SiC	940	20	2.5	20	0.5	0.4	20	20	6
ATIR0621DS	GaAs/SiC	940	1	50	2	0.5	1	80	70	7



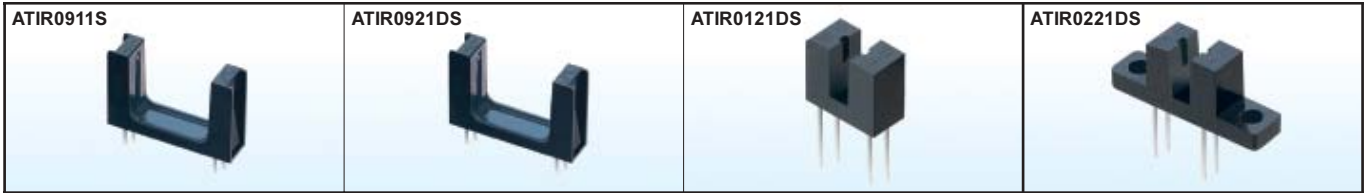
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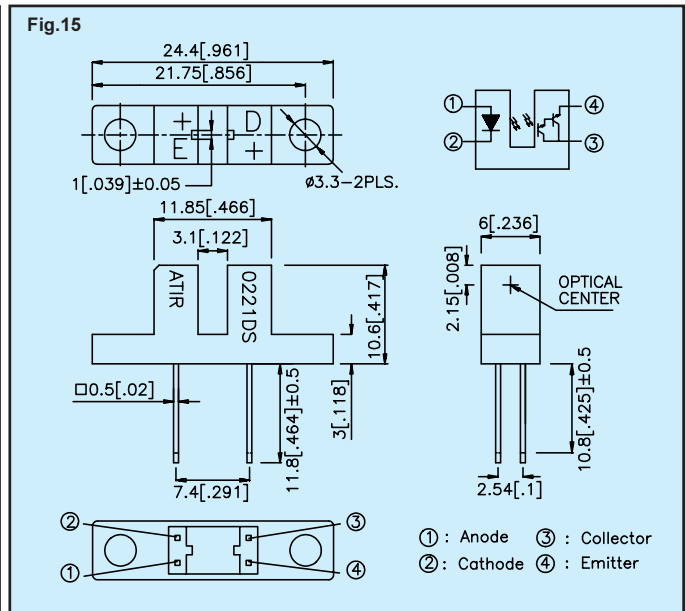
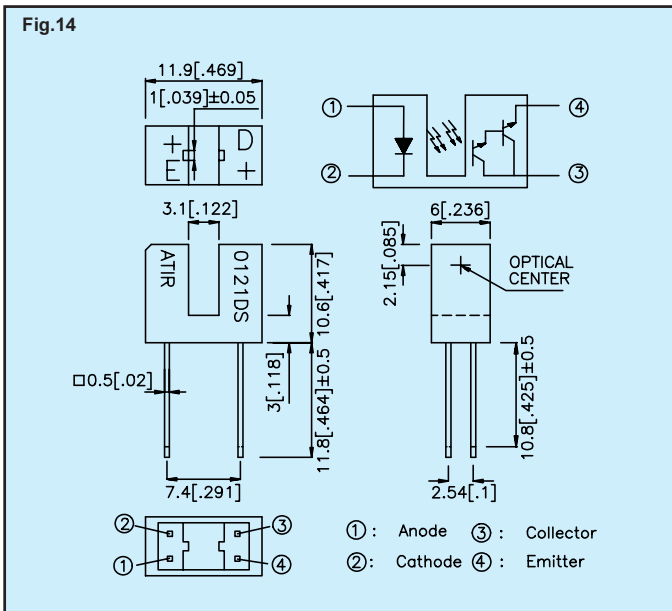
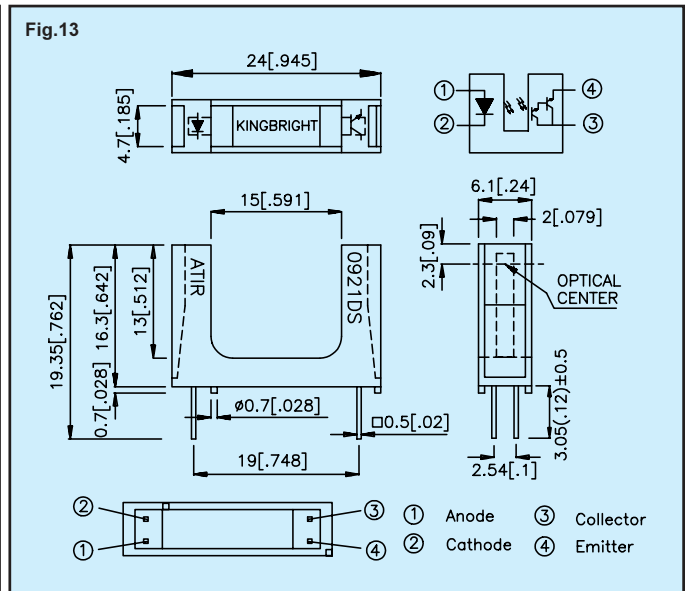
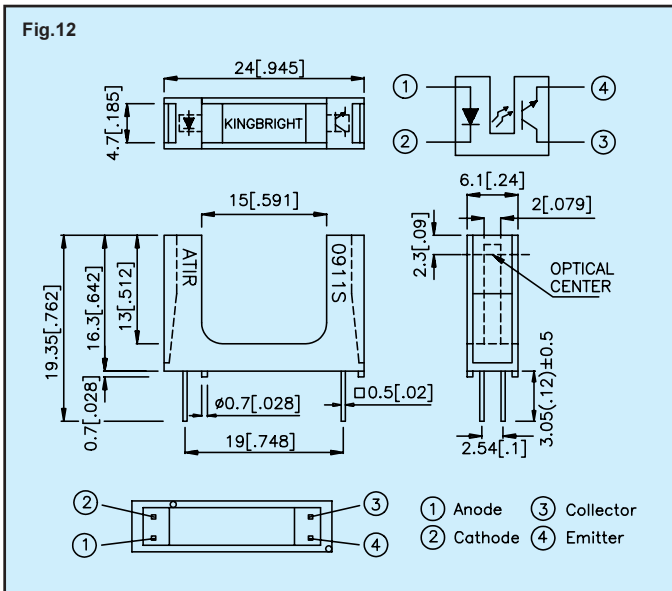
Part No.	Material	λ P (nm)	CTR		$V_{CE(SAT)}$			Rise Time (μ s) Typ.	Fall Time (μ s) Typ.	Fig.
			IF (mA)	Min.(%)	IF (mA)	IC (mA)	Max.(V)			
ATIR0311S	GaAs/SiC	940	20	2.5	20	0.5	0.4	20	20	8
ATIR0321DS	GaAs/SiC	940	1	50	2	0.5	1	80	70	9
ATIR0411S	GaAs/SiC	940	20	2.5	20	0.5	0.4	20	20	10
ATIR0421DS	GaAs/SiC	940	1	50	2	0.5	1	80	70	11



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Part No.	Material	λ P (nm)	CTR		$V_{CE(SAT)}$			Rise Time (μ s) Typ.	Fall Time (μ s) Typ.	Fig.
			IF(mA)	Min.(%)	IF(mA)	IC(mA)	Max.(V)			
ATIR0911S	GaAs/SiC	940	20	2.5	20	0.5	0.4	20	20	12
ATIR0921DS	GaAs/SiC	940	1	50	2	0.5	1	80	70	13
ATIR0121DS	GaAs/SiC	940	1	50	2	0.5	1	80	70	14
ATIR0221DS	GaAs/SiC	940	1	50	2	0.5	1	80	70	15



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Kingbright Catalog

2003-2004



INDEX

P2-3 LIGHT PIPE

P4-6 BASED LED LAMPS

P7-8 CLUSTER

KL-02



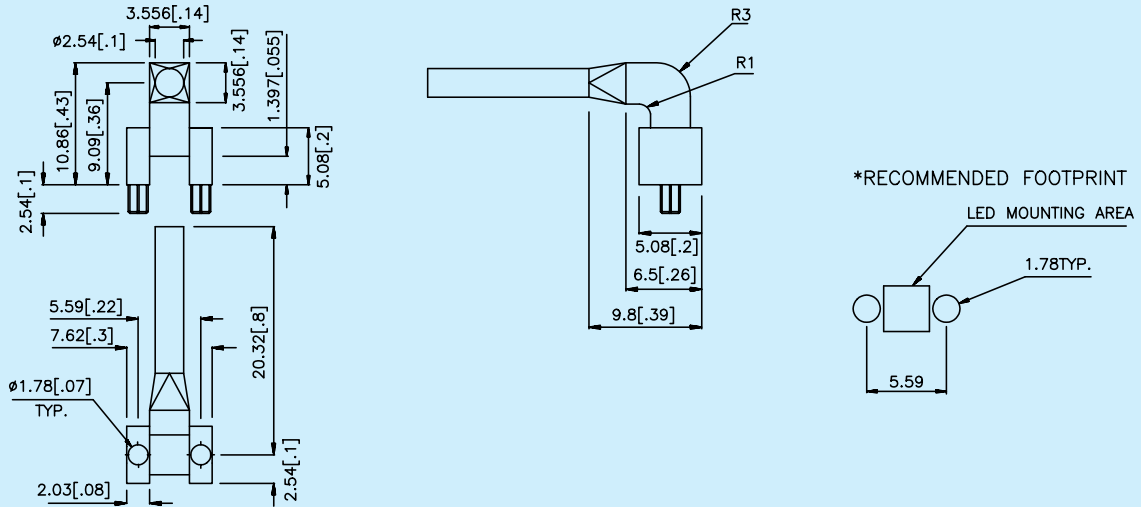
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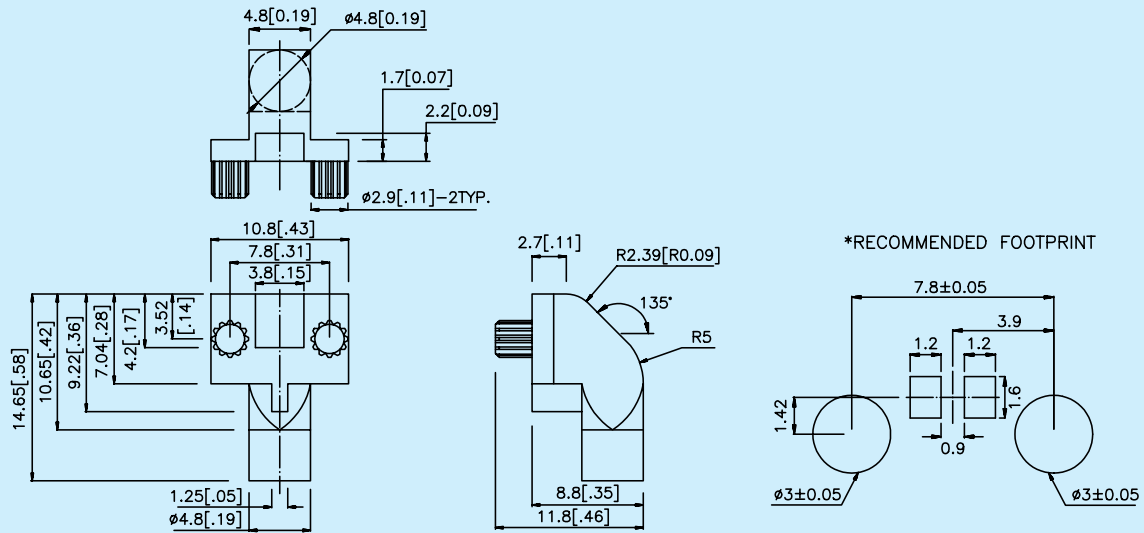
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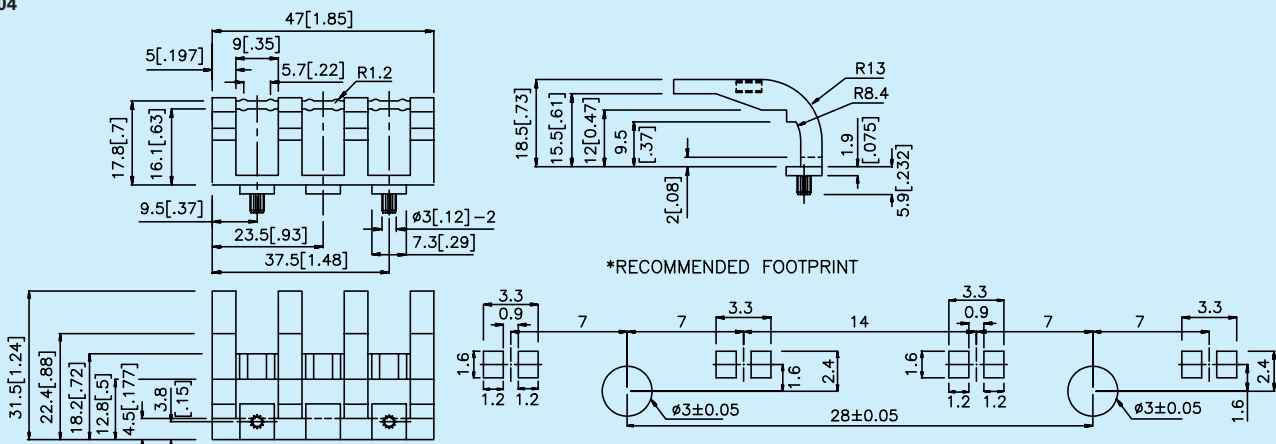
KL-02



KL-03



KL-04



NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25\text{mm}$ (0.01") unless otherwise noted.

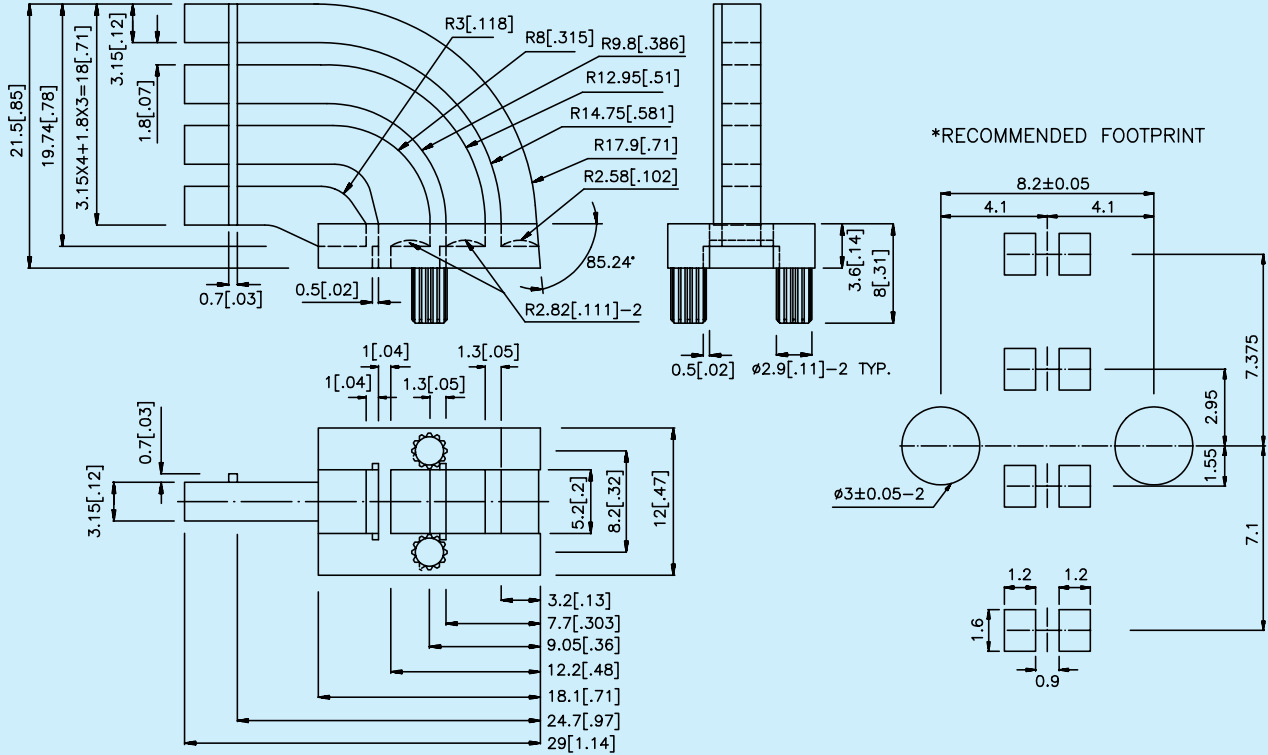
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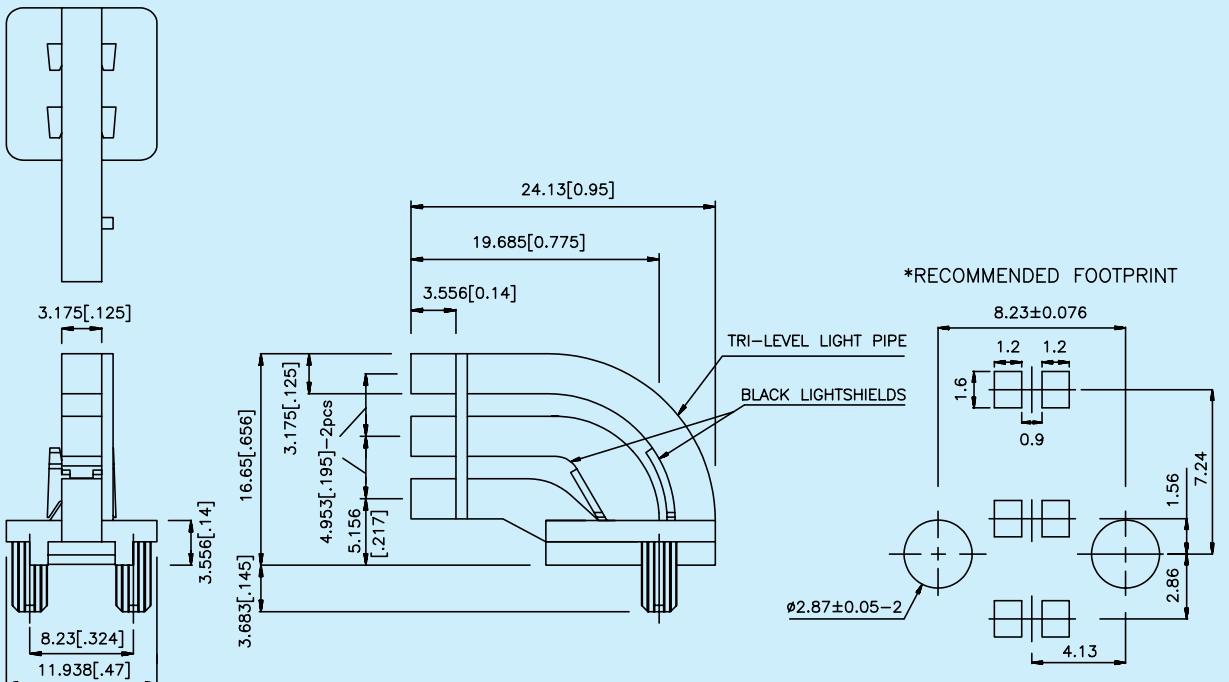
KL-07LS



KL-05



KL-07LS



NOTES:

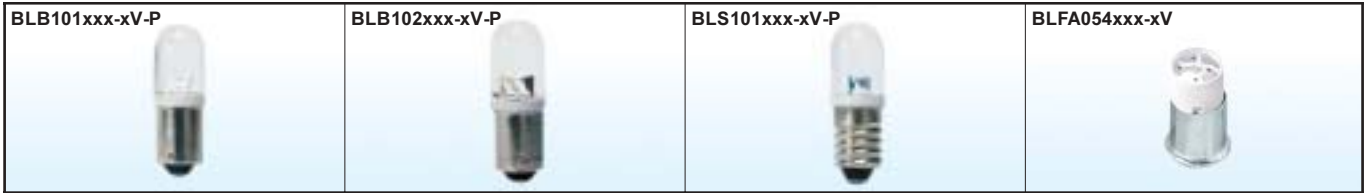
1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) V=6V *V=12V **V=28V		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
BLFA052MBC-6V	GaN	466	water clear	7	17	110°	5mm Flange Base
BLFA052MWC-6V	GaN	-	water clear	18	65	110°	
BLFA062MBC-6V	GaN	466	water clear	7	17	110°	6mm Flange Base
BLFA062MWC-6V	GaN	-	water clear	18	65	110°	
BLF041SURC/E-6V	InGaAlP	630	water clear	650	1500	30°	4mm Flange Base
BLF041SURC/E12V	InGaAlP	630	water clear	*480	*1200	30°	
BLF041SURC/E28V	InGaAlP	630	water clear	**380	**1000	30°	
BLF041SYC-6V-P	InGaAlP	588	water clear	380	800	30°	
BLF041SYC-12V-P	InGaAlP	588	water clear	*280	*700	30°	
BLF041SYC-28V-P	InGaAlP	588	water clear	**110	**280	30°	
BLF041MGC-6V-P	InGaAlP	568	water clear	280	800	30°	
BLF041MGC-12V-P	InGaAlP	568	water clear	*180	*700	30°	
BLF041MGC-28V-P	InGaAlP	568	water clear	**110	**350	30°	
BLF051SURC/E-6V	InGaAlP	630	water clear	650	1500	30°	5mm Flange Base
BLF051SURC/E12V	InGaAlP	630	water clear	*480	*1200	30°	
BLF051SURC/E28V	InGaAlP	630	water clear	**380	**1000	30°	
BLF051SYC-6V-P	InGaAlP	588	water clear	280	500	30°	
BLF051SYC-12V-P	InGaAlP	588	water clear	*180	*400	30°	
BLF051SYC-28V-P	InGaAlP	588	water clear	**110	**230	30°	
BLF051MGC-6V-P	InGaAlP	568	water clear	280	400	30°	
BLF051MGC-12V-P	InGaAlP	568	water clear	*180	*300	30°	
BLF051MGC-28V-P	InGaAlP	568	water clear	**110	**220	30°	
BLF052SURC/E-6V	InGaAlP	630	water clear	900	1200	45°	5mm Flange Base
BLF052SURC/E12V	InGaAlP	630	water clear	*650	*1000	45°	
BLF052SURC/E28V	InGaAlP	630	water clear	**480	**800	45°	
BLF052SYC-6V-P	InGaAlP	588	water clear	280	400	45°	
BLF052SYC-12V-P	InGaAlP	588	water clear	*180	*300	45°	
BLF052SYC-28V-P	InGaAlP	588	water clear	**110	**250	45°	
BLF052MGC-6V-P	InGaAlP	568	water clear	180	400	45°	
BLF052MGC-12V-P	InGaAlP	568	water clear	*110	*300	45°	
BLF052MGC-28V-P	InGaAlP	568	water clear	**70	**200	45°	

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) V=6V *V=12V **V=28V		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
BLB101SURC/E-6V	InGaAlP	630	water clear	900	2200	20°	10mm Bayonet Base
BLB101SURC/E12V	InGaAlP	630	water clear	*650	*1800	20°	
BLB101SURC/E28V	InGaAlP	630	water clear	**480	**930	20°	
BLB101SYC-6V-P	InGaAlP	588	water clear	650	1300	20°	
BLB101SYC-12V-P	InGaAlP	588	water clear	*480	*1200	20°	
BLB101SYC-28V-P	InGaAlP	588	water clear	**180	**380	20°	
BLB101MGC-6V-P	InGaAlP	568	water clear	380	900	20°	
BLB101MGC-12V-P	InGaAlP	568	water clear	*280	*800	20°	
BLB101MGC-28V-P	InGaAlP	568	water clear	**110	**300	20°	
BLB102SURC/E-6V	InGaAlP	630	water clear	900	2200	40°	10mm Bayonet Base
BLB102SURC/E12V	InGaAlP	630	water clear	*650	*1800	40°	
BLB102SURC/E28V	InGaAlP	630	water clear	**480	**1300	40°	
BLB102SYC-6V-P	InGaAlP	588	water clear	650	1300	40°	
BLB102SYC-12V-P	InGaAlP	588	water clear	*480	*1200	40°	
BLB102SYC-28V-P	InGaAlP	588	water clear	**380	**600	40°	
BLB102MGC-6V-P	InGaAlP	568	water clear	380	900	40°	
BLB102MGC-12V-P	InGaAlP	568	water clear	*280	*800	40°	
BLB102MGC-28V-P	InGaAlP	568	water clear	**180	**400	40°	
BLS101SURC/E-6V	InGaAlP	630	water clear	900	2200	20°	10mm Screw Base
BLS101SURC/E12V	InGaAlP	630	water clear	*650	*1800	20°	
BLS101SURC/E28V	InGaAlP	630	water clear	**480	**900	20°	
BLS101SYC-6V-P	InGaAlP	588	water clear	650	1300	20°	
BLS101SYC-12V-P	InGaAlP	588	water clear	*480	*1200	20°	
BLS101SYC-28V-P	InGaAlP	588	water clear	**280	**350	20°	
BLS101MGC-6V-P	InGaAlP	568	water clear	380	900	20°	
BLS101MGC-12V-P	InGaAlP	568	water clear	*280	*800	20°	
BLS101MGC-28V-P	InGaAlP	568	water clear	**110	**350	20°	
BLFA054SURCK-6V	InGaAlP	635	water clear	280	510	110°	5mm Flange Base
BLFA054SURCK12V	InGaAlP	635	water clear	*280	*510	110°	
BLFA054SURCK28V	InGaAlP	635	water clear	**280	**510	110°	
BLFA054SECK-6V	InGaAlP	601	water clear	380	760	110°	
BLFA054SECK-12V	InGaAlP	601	water clear	*380	*760	110°	
BLFA054SECK-28V	InGaAlP	601	water clear	**380	**760	110°	
BLFA054SYCK-6V	InGaAlP	590	water clear	36	130	110°	
BLFA054SYCK-12V	InGaAlP	590	water clear	*36	*130	110°	
BLFA054SYCK-28V	InGaAlP	590	water clear	**36	**130	110°	
BLFA054MGCK-6V	InGaAlP	570	water clear	180	460	110°	
BLFA054MGCK-12V	InGaAlP	570	water clear	*180	*460	110°	
BLFA054MGCK-28V	InGaAlP	570	water clear	**180	**460	110°	
BLFA054MBC-6V	GaN	466	water clear	18	35	110°	
BLFA054MBC-12V	GaN	466	water clear	*18	*35	110°	
BLFA054MBC-28V	GaN	466	water clear	**18	**35	110°	
BLFA054MWC-6V	GaN	-	water clear	70	130	110°	
BLFA054MWC-12V	GaN	-	water clear	*70	*130	110°	
BLFA054MWC-28V	GaN	-	water clear	**70	**130	110°	

NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) V=6V		Viewing Angle 2 θ 1/2	Dimension
				*V=12V Min.	**V=28V Typ.		
BLFA064SURCK-6V	InGaAlP	635	water clear	650	1100	110°	6mm Flange Base
BLFA064SURCK12V	InGaAlP	635	water clear	*650	*1100	110°	
BLFA064SURCK28V	InGaAlP	635	water clear	**650	**1100	110°	
BLFA064SECK-6V	InGaAlP	601	water clear	900	1500	110°	
BLFA064SECK-12V	InGaAlP	601	water clear	*900	*1500	110°	
BLFA064SECK-28V	InGaAlP	601	water clear	**900	**1500	110°	
BLFA064SYCK-6V	InGaAlP	590	water clear	110	260	110°	
BLFA064SYCK-12V	InGaAlP	590	water clear	*110	*260	110°	
BLFA064SYCK-28V	InGaAlP	590	water clear	**110	**260	110°	
BLFA064MGCK-6V	InGaAlP	570	water clear	110	240	110°	
BLFA064MGCK-12V	InGaAlP	570	water clear	*110	*240	110°	
BLFA064MGCK-28V	InGaAlP	570	water clear	**110	**240	110°	
BLFA064MBC-6V	GaN	466	water clear	18	60	110°	
BLFA064MBC-12V	GaN	466	water clear	*18	*60	110°	
BLFA064MBC-28V	GaN	466	water clear	**18	**60	110°	
BLFA064MWC-6V	GaN	-	water clear	70	130	110°	
BLFA064MWC-12V	GaN	-	water clear	*70	*130	110°	
BLFA064MWC-28V	GaN	-	water clear	**70	**130	110°	

Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) AC=110V		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
BLS102SURCA110	InGaAlP	628	water clear	380	1400	25°	10mm Screw Base

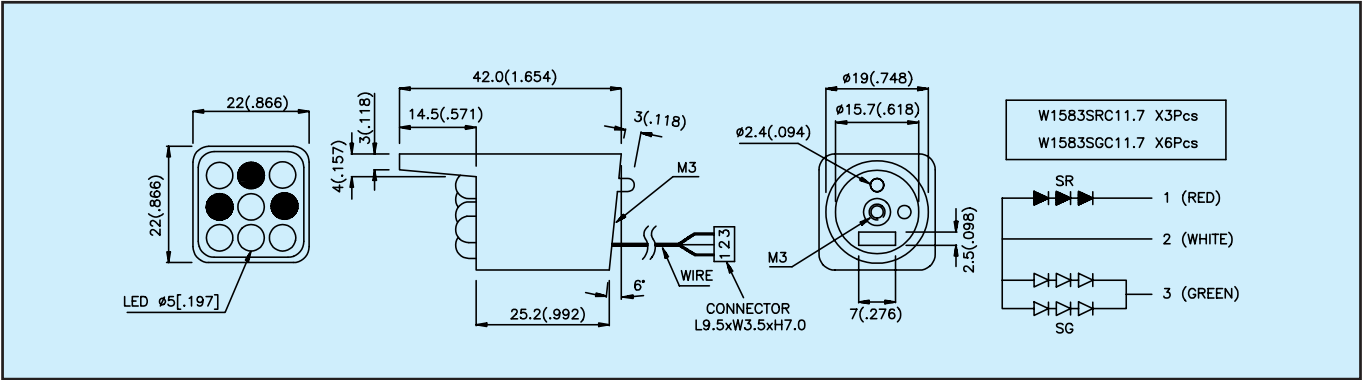
Part No.	Material	Lens Type	Iv (mcd) V=12V		Viewing Angle 2 θ 1/2	Dimension
			Min.	Typ.		
BLPD133B	InGaN	water clear	180	380	120°	

NOTES:

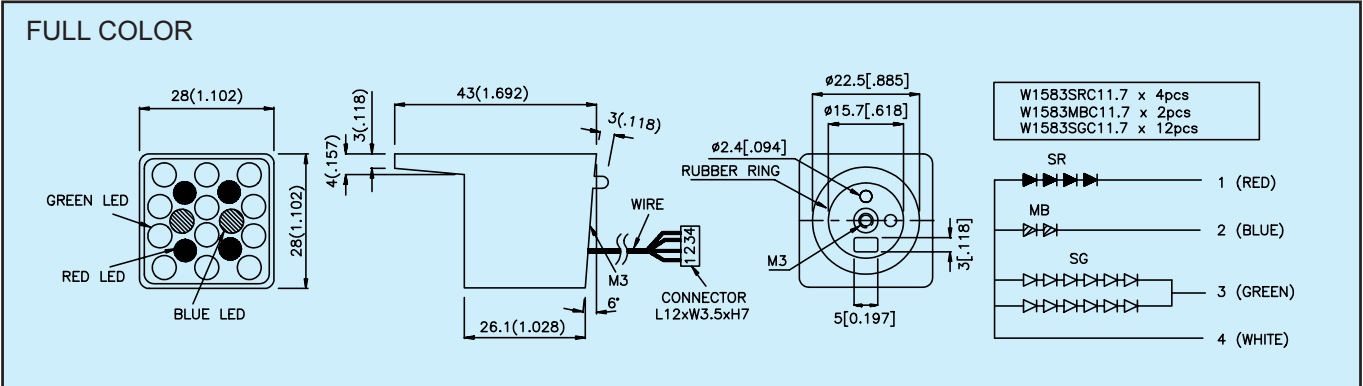
1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



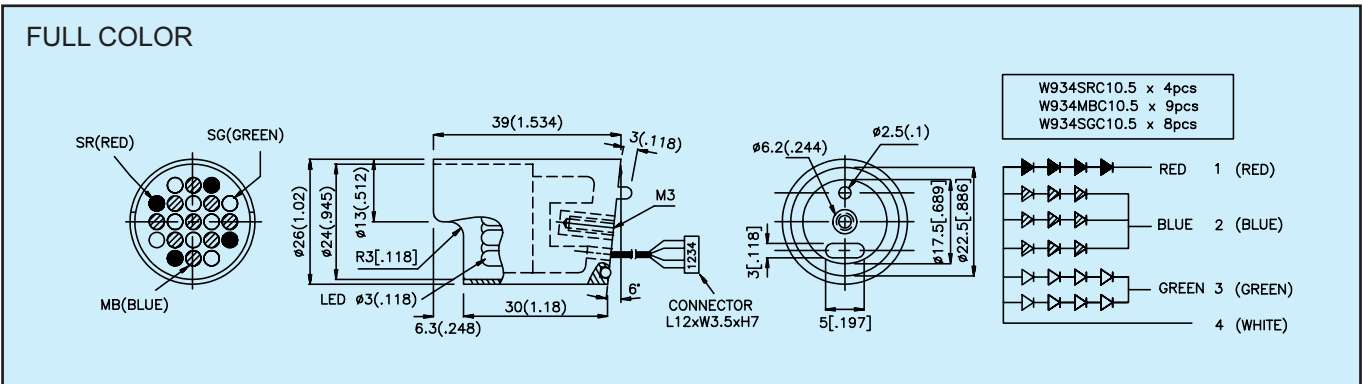
Part No.	Material	λ D (nm)	Lens Type	Iv (mcd)		Viewing Angle 2θ1/2	IF(mA)
				Min.	Typ.		
BL0508-09-73	GaAlAs	640	water clear	480	1200	40°	20
	GaP	568	water clear	380	800	40°	40



BL0709-18-76	GaAlAs	640	water clear	900	1800	40°	20
	GaN	466	water clear	18	70	40°	20
	GaP	568	water clear	650	1200	40°	40



BL0104-21-72	GaAlAs	640	water clear	650	1800	40°	20
	GaN	466	water clear	180	300	40°	60
	GaP	568	water clear	480	1200	40°	40



NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

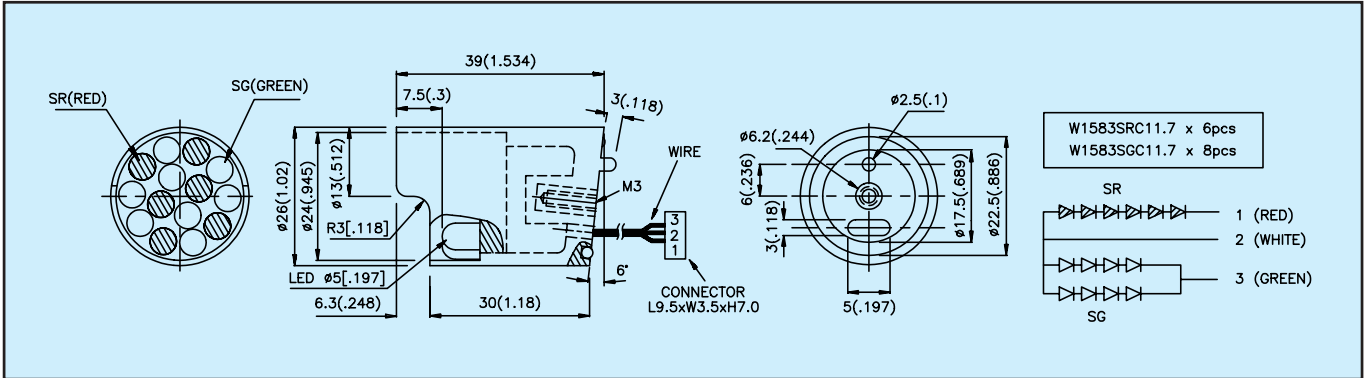
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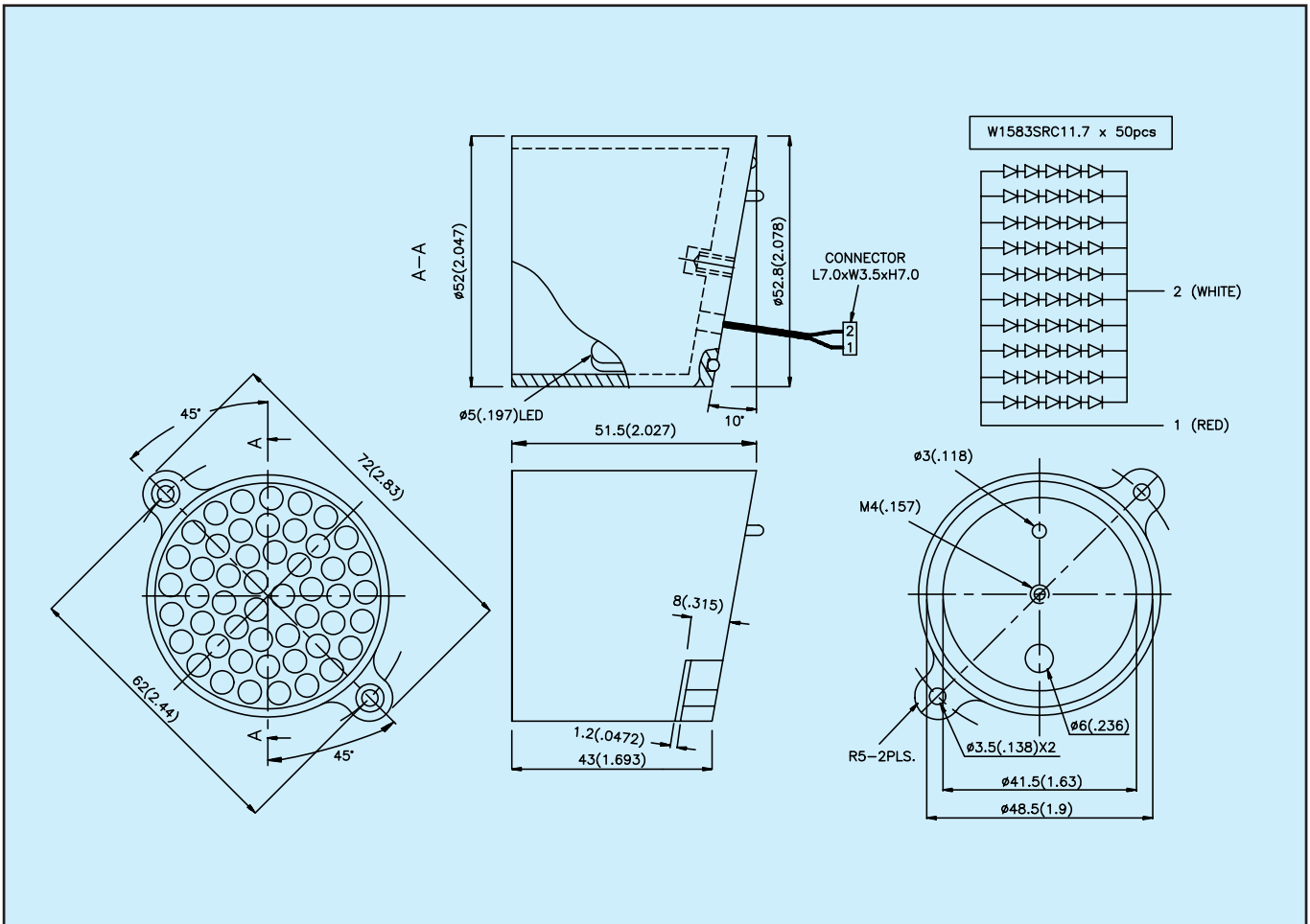
BL0307-50-44



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd)		Viewing Angle	IF(mA)
				Min.	Typ.		
BL0102-14-34	GaAlAs	640	water clear	1500	2800	40°	20
	GaP	568	water clear	650	1600	40°	40



BL0307-50-44	GaAlAs	640	water clear	12000	21000	40°	200
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NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.

Kingbright Catalog

2003-2004



INDEX

P2-12 HOUSING LED LAMPS

P13-14 HOUSING & SPACER FOR LED LAMPS



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA *V=5V		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		

AM2520EH/ID	GaAsP/GaP	625	red diffused	7	30	40°	Subminiature Solid State Lamps
AM2520EH/ID5V	GaAsP/GaP	625	red diffused	*2.6	*8	40°	
AM2520EH/YD	GaAsP/GaP	588	yellow diffused	2.6	10	40°	
AM2520EH/YD5V	GaAsP/GaP	588	yellow diffused	*1.6	*3	40°	
AM2520EH/SGD	GaP	568	green diffused	2.6	10	40°	
AM2520EH/SGD5V	GaP	568	green diffused	*1.6	*4	40°	

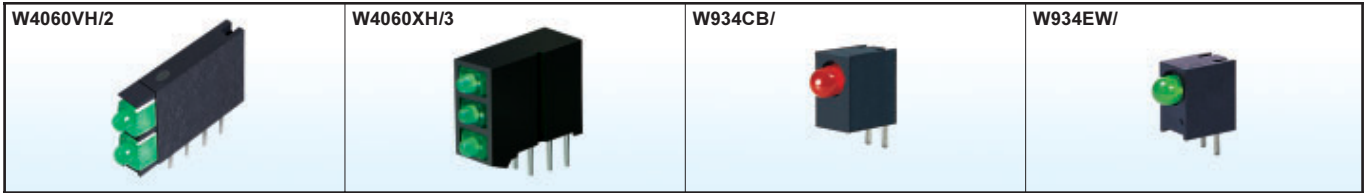
AM2520EJ/ID	GaAsP/GaP	625	red diffused	7	30	40°	Subminiature Solid State Lamps
AM2520EJ/ID5V	GaAsP/GaP	625	red diffused	*2.6	*8	40°	
AM2520EJ/YD	GaAsP/GaP	588	yellow diffused	2.6	10	40°	
AM2520EJ/YD5V	GaAsP/GaP	588	yellow diffused	*1.6	*3	40°	
AM2520EJ/SGD	GaP	568	green diffused	2.6	10	40°	
AM2520EJ/SGD5V	GaP	568	green diffused	*1.6	*4	40°	

AM2520EF/4ID	GaAsP/GaP	625	red diffused	7	30	40°	Subminiature Solid State Lamps
AM2520EF/4ID5V	GaAsP/GaP	625	red diffused	*2.6	*8	40°	
AM2520EF/4YD	GaAsP/GaP	588	yellow diffused	2.6	10	40°	
AM2520EF/4YD5V	GaAsP/GaP	588	yellow diffused	*1.6	*3	40°	
AM2520EF/4SGD	GaP	568	green diffused	2.6	10	40°	
AM2520EF/4SGD5V	GaP	568	green diffused	*1.6	*4	40°	

AM2520EG/4ID	GaAsP/GaP	625	red diffused	7	30	40°	Subminiature Solid State Lamps
AM2520EG/4ID5V	GaAsP/GaP	625	red diffused	*2.6	*8	40°	
AM2520EG/4YD	GaAsP/GaP	588	yellow diffused	2.6	10	40°	
AM2520EG/4YD5V	GaAsP/GaP	588	yellow diffused	*1.6	*3	40°	
AM2520EG/4SGD	GaP	568	green diffused	2.6	10	40°	
AM2520EG/4SGD5V	GaP	568	green diffused	*1.6	*4	40°	

NOTES:

- All dimensions are in millimeters(inches).
- Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.
- Parts with different 6V, 12V & 24V internal resistor are available. Please check with our sales offices worldwide.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		

							1.8mm Bi-Level
W4060VH/2ID	GaAsP/GaP	625	red diffused	8	15	70°	
W4060VH/2SRD	GaAlAs	640	red diffused	*70	*200	70°	
W4060VH/2YD	GaAsP/GaP	588	yellow diffused	1.8	5	70°	
W4060VH/2GD	GaP	568	green diffused	5	10	70°	

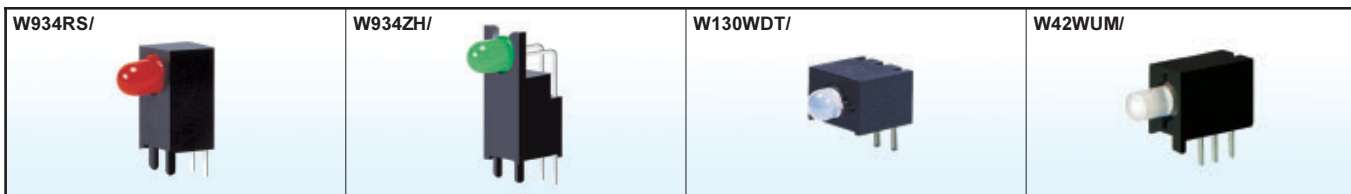
							1.8mm Tri-Level
W4060XH/3ID	GaAsP/GaP	625	red diffused	8	15	70°	
W4060XH/3SRD	GaAlAs	640	red diffused	*70	*200	70°	
W4060XH/3YD	GaAsP/GaP	588	yellow diffused	1.8	5	70°	
W4060XH/3GD	GaP	568	green diffused	5	10	70°	

							T-1 (3mm) Right Angle
W934CB/ID	GaAsP/GaP	625	red diffused	8	20	60°	
W934CB/SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934CB/YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934CB/GD	GaP	568	green diffused	8	20	60°	

							T-1 (3mm) Right Angle
W934EW/ID	GaAsP/GaP	625	red diffused	8	20	60°	
W934EW/SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934EW/YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934EW/GD	GaP	568	green diffused	8	20	60°	

NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 mm (0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2θ/2	Dimension
				Min.	Typ.		

W934RS/ID	GaAsP/GaP	625	red diffused	8	20	60°	<p>T-1 (3mm) Right Angle</p>
W934RS/SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934RS/YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934RS/GD	GaP	568	green diffused	8	20	60°	

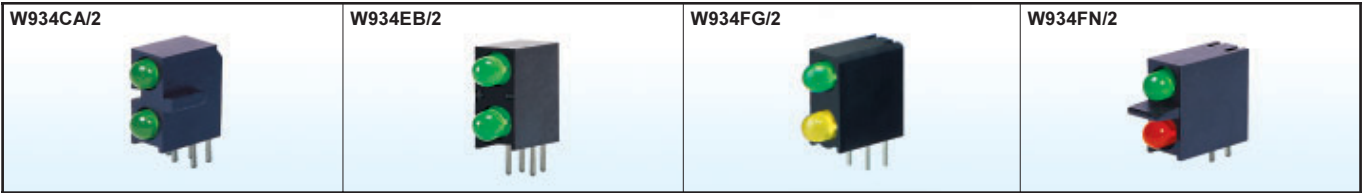
W934ZH/ID	GaAsP/GaP	625	red diffused	8	20	60°	<p>T-1 (3mm) Right Angle</p>
W934ZH/SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934ZH/YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934ZH/GD	GaP	568	green diffused	8	20	60°	

W130WDT/EGW	GaAsP/GaP	625	white diffused	*7	*30	60°	<p>T-1 (3mm) Right Angle</p>
	GaP	568		*7	*25		
W130WDT/EYW	GaAsP/GaP	625	white diffused	*7	*30	60°	
	GaAsP/GaP	588		*7	*20		
W130WDT/GYW	GaP	568	white diffused	*7	*25	60°	
	GaAsP/GaP	588		*7	*20		

W42WUM/EGW	GaAsP/GaP	625	white diffused	*4	*13	100°	<p>T-1 (3mm) Right Angle</p>
	GaP	568		*4	*13		
W42WUM/EYW	GaAsP/GaP	625	white diffused	*4	*13	100°	
	GaAsP/GaP	588		*2.6	*6		
W42WUM/GYW	GaP	568	white diffused	*4	*13	100°	
	GaAsP/GaP	588		*2.6	*6		

NOTES:

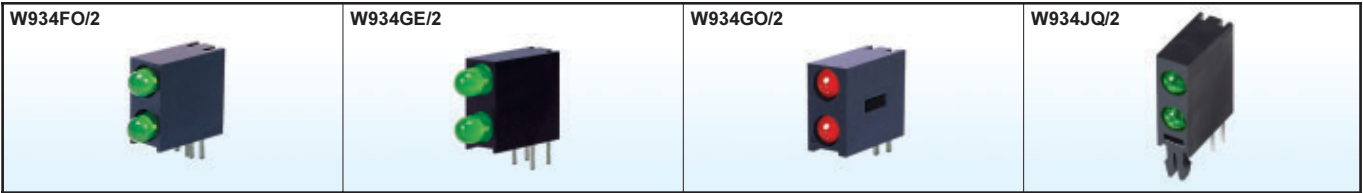
- All dimensions are in millimeters(inches).
- Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2 θ /2	Dimension
				Min.	Typ.		
W934CA/2ID-90	GaAsP/GaP	625	red diffused	8	20	60°	T-1 (3mm) Bi-Level
W934CA/2SRD-90	GaAlAs	640	red diffused	*110	*300	60°	
W934CA/2YD-90	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934CA/2GD-90	GaP	568	green diffused	8	20	60°	
W934EB/2ID	GaAsP/GaP	625	red diffused	8	20	60°	T-1 (3mm) Bi-Level
W934EB/2SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934EB/2YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934EB/2GD	GaP	568	green diffused	8	20	60°	
W934FG/2ID	GaAsP/GaP	625	red diffused	8	20	60°	T-1 (3mm) Bi-Level
W934FG/2SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934FG/2YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934FG/2GD	GaP	568	green diffused	8	20	60°	
W934FN/2ID	GaAsP/GaP	625	red diffused	8	20	60°	T-1 (3mm) Bi-Level
W934FN/2SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934FN/2YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934FN/2GD	GaP	568	green diffused	8	20	60°	

NOTES:

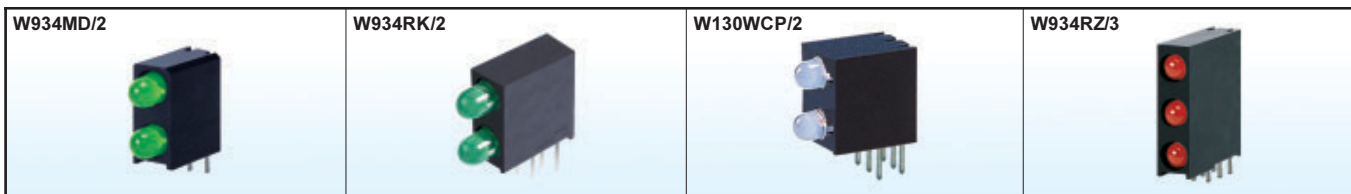
1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2 θ /2	Dimension
				Min.	Typ.		
W934FO/2ID	GaAsP/GaP	625	red diffused	8	20	60°	T-1 (3mm) Bi-Level
W934FO/2SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934FO/2YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934FO/2GD	GaP	568	green diffused	8	20	60°	
W934GE/2ID	GaAsP/GaP	625	red diffused	8	20	60°	T-1 (3mm) Bi-Level
W934GE/2SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934GE/2YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934GE/2GD	GaP	568	green diffused	8	20	60°	
W934GO/2ID	GaAsP/GaP	625	red diffused	8	20	60°	T-1 (3mm) Bi-Level
W934GO/2SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934GO/2YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934GO/2GD	GaP	568	green diffused	8	20	60°	
W934JQ/2ID	GaAsP/GaP	625	red diffused	8	20	60°	T-1 (3mm) Bi-Level
W934JQ/2SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934JQ/2YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934JQ/2GD	GaP	568	green diffused	8	20	60°	

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is ± 0.25 mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		

W934MD/2ID	GaAsP/GaP	625	red diffused	8	20	60°	T-1 (3mm) Bi-Level
W934MD/2SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934MD/2YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934MD/2GD	GaP	568	green diffused	8	20	60°	

W934RK/2ID	GaAsP/GaP	625	red diffused	8	20	60°	T-1 (3mm) Bi-Level
W934RK/2SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934RK/2YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934RK/2GD	GaP	568	green diffused	8	20	60°	

W130WCP/2EGW	GaAsP/GaP	625	white diffused	*7	*30	60°	T-1(3mm) Bi-Level
	GaP	568		*7	*25		
W130WCP/2EYW	GaAsP/GaP	625	white diffused	*7	*30	60°	
	GaAsP/GaP	588		*7	*20		
W130WCP/2GYW	GaP	568	white diffused	*7	*25	60°	
	GaAsP/GaP	588		*7	*20		

W934RZ/3ID	GaAsP/GaP	625	red diffused	8	20	60°	T-1 (3mm) Tri-Level
W934RZ/3SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934RZ/3YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934RZ/3GD	GaP	568	green diffused	8	20	60°	

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2 θ /2	Dimension
				Min.	Typ.		

W934PJ/3ID	GaAsP/GaP	625	red diffused	8	20	60°	<p>T-1 (3mm) Tri-Level</p>
W934PJ/3SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934PJ/3YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934PJ/3GD	GaP	568	green diffused	8	20	60°	

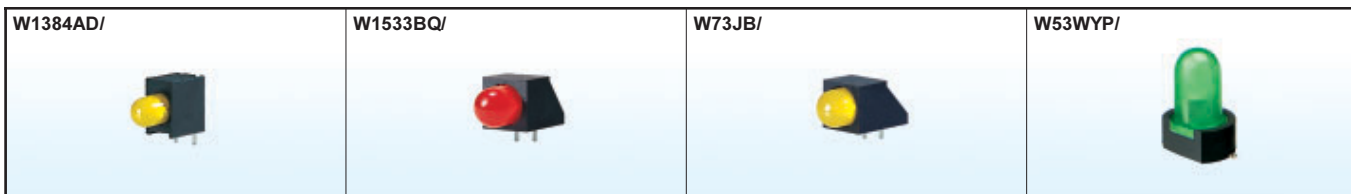
W934SA/3ID	GaAsP/GaP	625	red diffused	8	20	60°	<p>T-1 (3mm) Tri-Level</p>
W934SA/3SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934SA/3YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934SA/3GD	GaP	568	green diffused	8	20	60°	

W934SB/4ID	GaAsP/GaP	625	red diffused	8	20	60°	<p>T-1 (3mm) Quad-Level</p>
W934SB/4SRD	GaAlAs	640	red diffused	*110	*300	60°	
W934SB/4YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934SB/4GD	GaP	568	green diffused	8	20	60°	

W1384AL/ID	GaAsP/GaP	625	red diffused	12	20	60°	<p>3.4mm Right Angle</p>
W1384AL/SRD	GaAlAs	640	red diffused	*70	*200	60°	
W1384AL/YD	GaAsP/GaP	588	yellow diffused	8	15	60°	
W1384AL/GD	GaP	568	green diffused	8	15	60°	

NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 mm (0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		

W1384AD/ID	GaAsP/GaP	625	red diffused	12	20	60°	<p>3.4mm Right Angle</p>
W1384AD/SRD	GaAlAs	640	red diffused	*70	*200	60°	
W1384AD/YD	GaAsP/GaP	588	yellow diffused	8	15	60°	
W1384AD/GD	GaP	568	green diffused	8	15	60°	

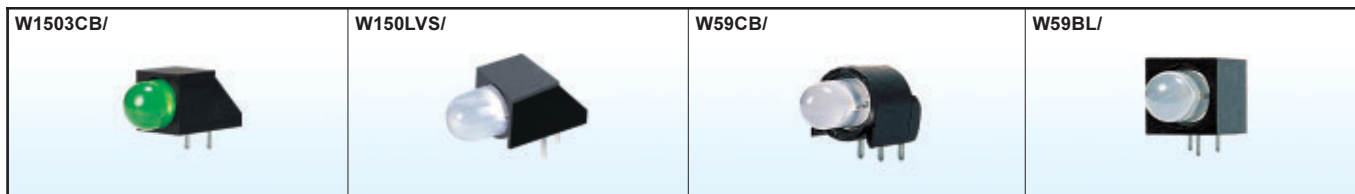
W1533BQ/ID	GaAsP/GaP	625	red diffused	8	30	60°	<p>4.7mm Right Angle</p>
W1533BQ/SRD	GaAlAs	640	red diffused	*110	*400	60°	
W1533BQ/YD	GaAsP/GaP	588	yellow diffused	5	18	60°	
W1533BQ/GD	GaP	568	green diffused	5	20	60°	

W73JB/IDA	GaAsP/GaP	625	red diffused	8	30	60°	<p>4.8mm Right Angle</p>
W73JB/SRDA	GaAlAs	640	red diffused	*110	*300	60°	
W73JB/YDA	GaAsP/GaP	588	yellow diffused	5	20	60°	
W73JB/GDA	GaP	568	green diffused	8	20	60°	

W53WYP/SEC/H	InGaAlP	630	water clear	*6700	*10000	30°	<p>T-1 3/4 (5mm) With Spacer</p>
W53WYP/VGC/H	InGaN	525	water clear	*7500	*18000	30°	
W53WYP/PBC/H	InGaN	470	water clear	*2200	*3600	30°	
W53WYP/PWC/H	InGaN	-	water clear	*2500	*4800	30°	
				X=0.33, Y=0.34			

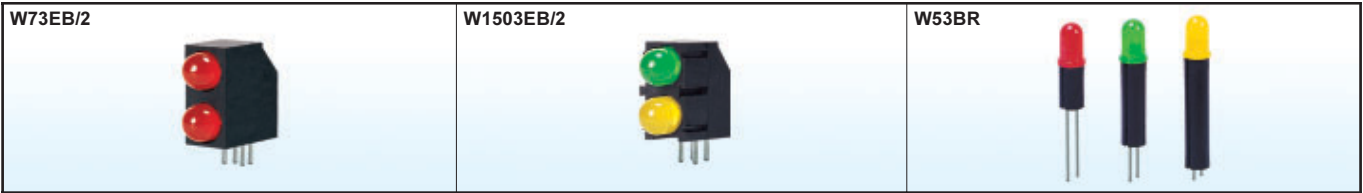
NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
W1503CB/ID	GaAsP/GaP	625	red diffused	8	30	60°	T-1 3/4 (5mm) Right Angle
W1503CB/SRD	GaAlAs	640	red diffused	*110	*400	60°	
W1503CB/YD	GaAsP/GaP	588	yellow diffused	5	20	60°	
W1503CB/GD	GaP	568	green diffused	5	20	60°	
W150LVS/EGW	GaAsP/GaP	625	white diffused	*18	*60	60°	T-1 3/4 (5mm) Right Angle
	GaP	568		*18	*50		
W150LVS/EYW	GaAsP/GaP	625	white diffused	*18	*60	60°	
	GaAsP/GaP	588		*18	*40		
W150LVS/GYW	GaP	568	white diffused	*18	*50	60°	
	GaAsP/GaP	588		*18	*40		
W59CB/EGW	GaAsP/GaP	625	white diffused	*18	*60	60°	T-1 3/4 (5mm) Right Angle
	GaP	568		*18	*50		
W59CB/EYW	GaAsP/GaP	625	white diffused	*18	*60	60°	
	GaAsP/GaP	588		*18	*40		
W59CB/GYW	GaP	568	white diffused	*18	*50	60°	
	GaAsP/GaP	588		*18	*40		
W59BL/EGW	GaAsP/GaP	625	white diffused	*18	*60	60°	T-1 3/4 (5mm) Right Angle
	GaP	568		*18	*50		
W59BL/EYW	GaAsP/GaP	625	white diffused	*18	*60	60°	
	GaAsP/GaP	588		*18	*40		
W59BL/GYW	GaP	568	white diffused	*18	*50	60°	
	GaAsP/GaP	588		*18	*40		

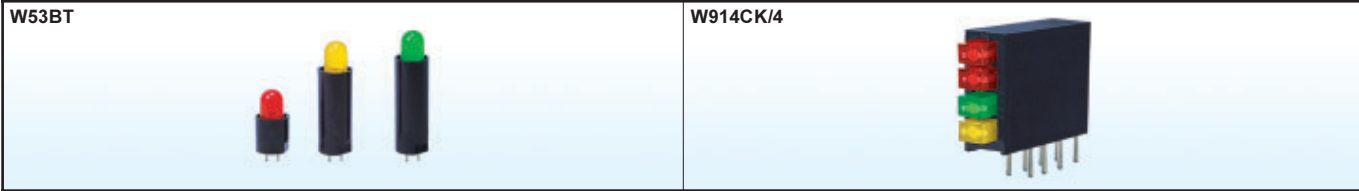
NOTES:
 1. All dimensions are in millimeters (inches).
 2. Tolerance is ± 0.25 mm (0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2 θ /2	Dimension
				Min.	Typ.		
W73EB/2IDA	GaAsP/GaP	625	red diffused	8	30	60°	4.8mm Bi-Level
W73EB/2SRDA	GaAlAs	640	red diffused	*110	*300	60°	
W73EB/2YDA	GaAsP/GaP	588	yellow diffused	5	20	60°	
W73EB/2GDA	GaP	568	green diffused	8	20	60°	
W1503EB/2ID	GaAsP/GaP	625	red diffused	8	30	60°	T-1 3/4 (5mm) Bi-Level
W1503EB/2SRD	GaAlAs	640	red diffused	*110	*400	60°	
W1503EB/2YD	GaAsP/GaP	588	yellow diffused	5	20	60°	
W1503EB/2GD	GaP	568	green diffused	5	20	60°	
W53BR5.08/ID W53BR6.35/ID W53BR9.52/ID W53BR17.8/ID W53BR23.5/ID	GaAsP/GaP	625	red diffused	8	25	60°	T-1 3/4 (5mm) With Spacer
W53BR5.08/SRD W53BR6.35/SRD W53BR9.52/SRD W53BR17.8/SRD W53BR23.5/SRD	GaAlAs	640	red diffused	*110	*300	60°	
W53BR5.08/YD W53BR6.35/YD W53BR9.52/YD W53BR17.8/YD W53BR23.5/YD	GaAsP/GaP	588	yellow diffused	5	20	60°	
W53BR5.08/GD W53BR6.35/GD W53BR9.52/GD W53BR17.8/GD W53BR23.5/GD	GaP	568	green diffused	5	20	60°	
W53BR5.08/SGD W53BR6.35/SGD W53BR9.52/SGD W53BR17.8/SGD W53BR23.5/SGD	GaP	568	green diffused	*18	*40	60°	

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



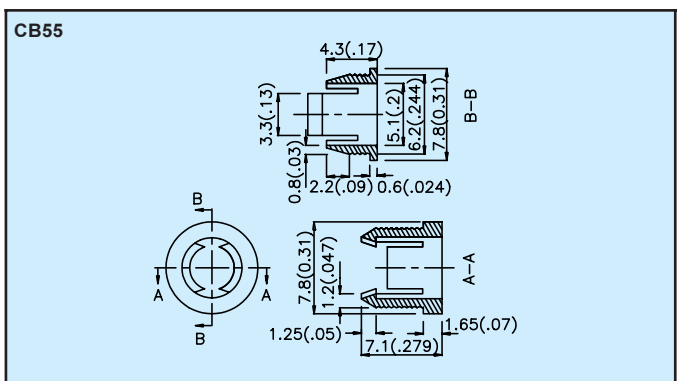
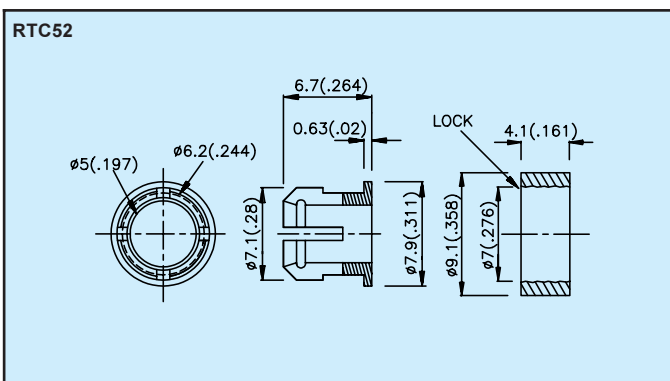
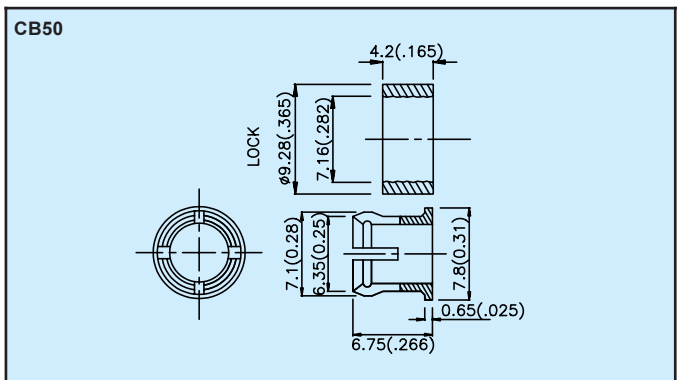
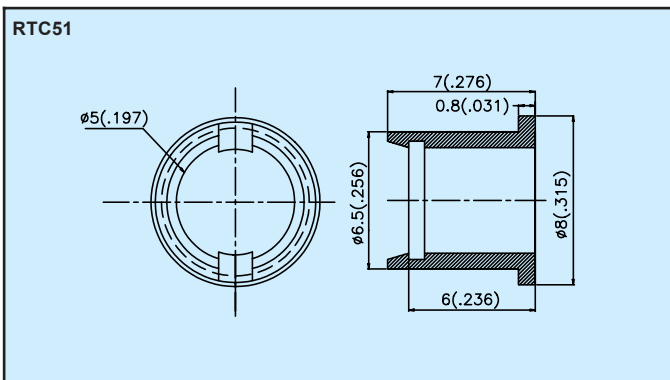
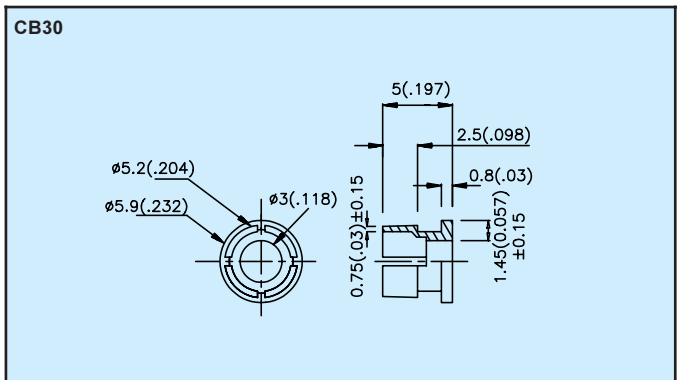
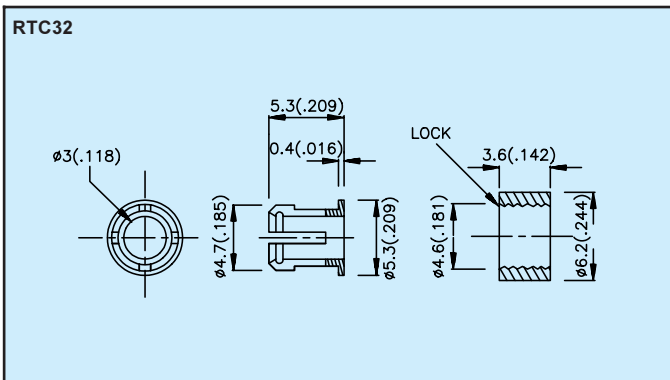
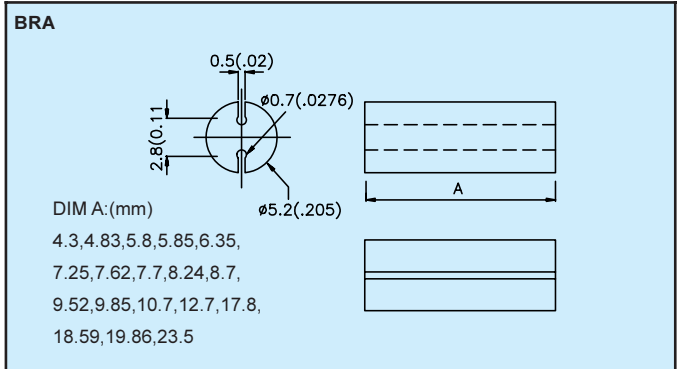
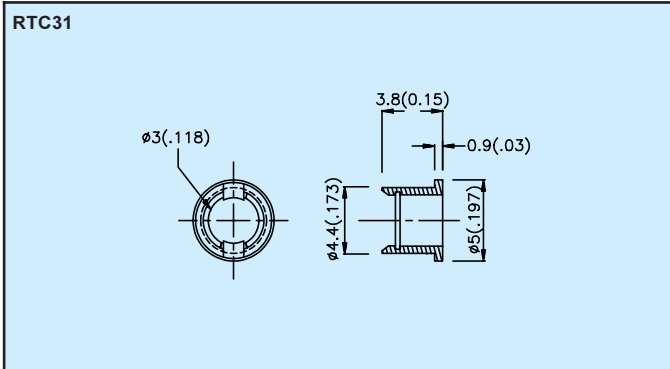
Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		

W53BT12.7/ID W53BT22.86/ID W53BT25.4/ID	GaAsP/GaP	625	red diffused	8	25	60°	T-1 3/4 (5mm) With Spacer
W53BT12.7/SRD W53BT22.86/SRD W53BT25.4/SRD	GaAlAs	640	red diffused	*110	*300	60°	
W53BT12.7/YD W53BT22.86/YD W53BT25.4/YD	GaAsP/GaP	588	yellow diffused	5	20	60°	
W53BT12.7/GD W53BT22.86/GD W53BT25.4/GD	GaP	568	green diffused	5	20	60°	
W53BT12.7/SGD W53BT22.86/SGD W53BT25.4/SGD	GaP	568	green diffused	*18	*40	60°	

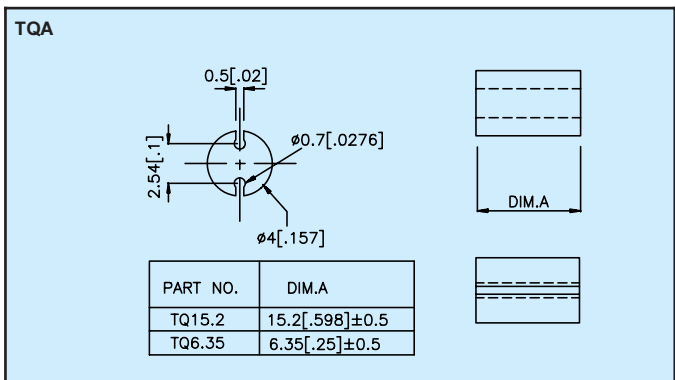
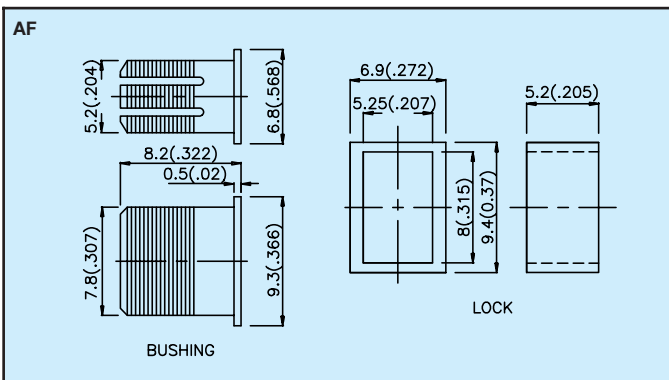
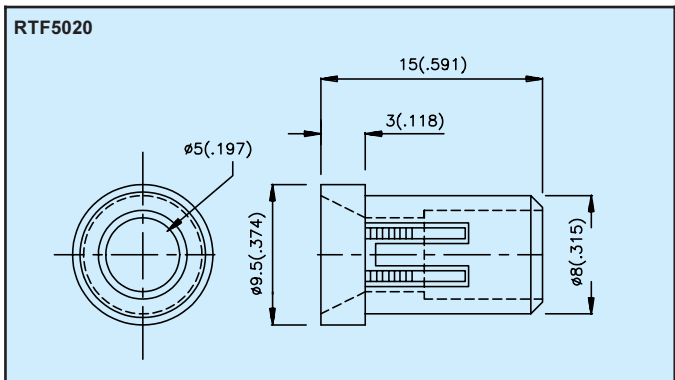
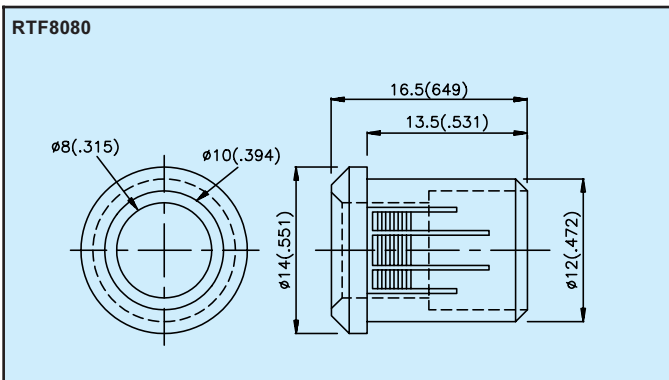
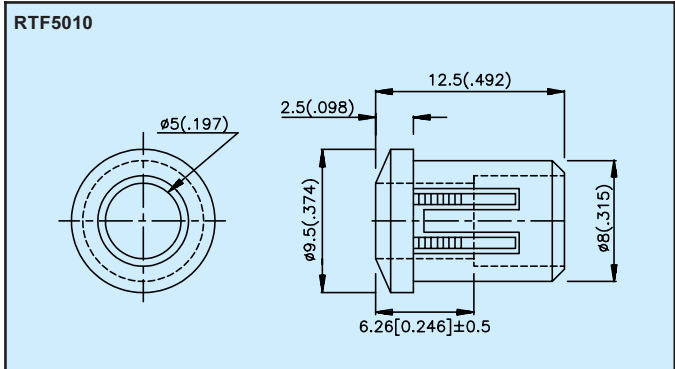
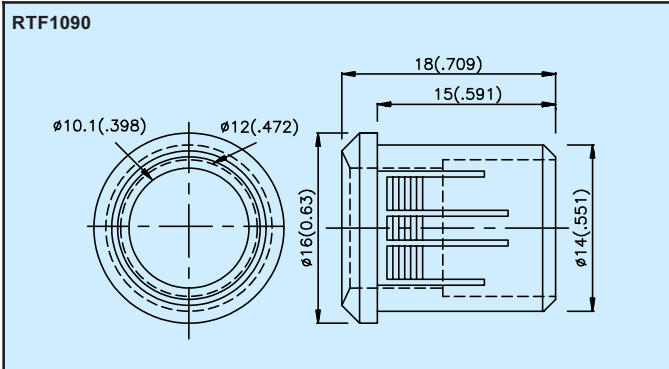
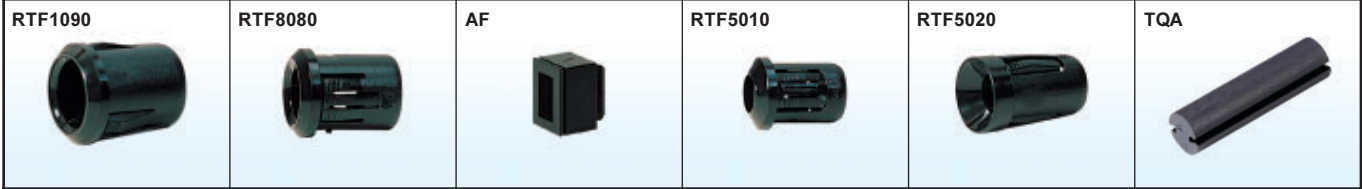
W914CK/4ID	GaAsP/GaP	625	red diffused	1.8	8	100°	2mm x 3mm Quad-Level
W914CK/4YD	GaAsP/GaP	588	yellow diffused	1	4	100°	
W914CK/4GD	GaP	568	green diffused	1.8	6	100°	

NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 mm (0.01") unless otherwise noted.



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 1. All dimensions are in millimeters(inches).
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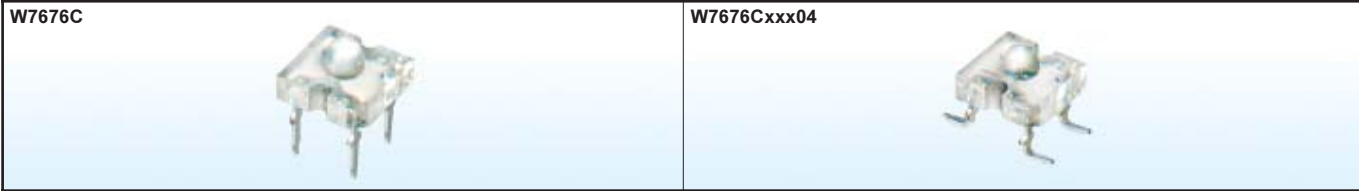
Kingbright Catalog

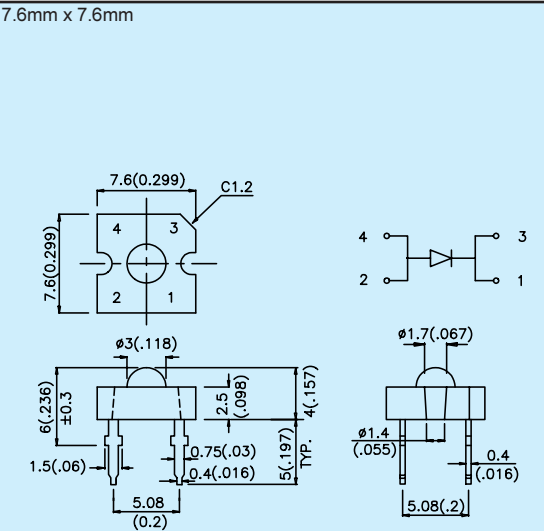
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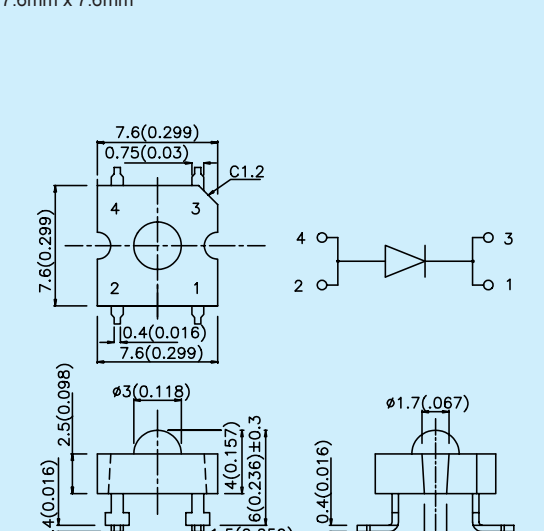


INDEX

P2-3	SUPER FLUX LED LAMPS	P16	BIG LED LAMPS
P3	VALUE ADDED LED LAMPS	P17-18	SUPER BRIGHT LED LAMPS
P4	INFRARED EMITTING DIODES	P19-22	BI-COLOR & BI-POLAR LED LAMPS
P5	PHOTOTRANSISTORS	P20	FULL COLOR LED LAMPS
P6-10	ROUND LED LAMPS	P23-24	BLINKING, LOW CURRENT & UV LED LAMPS
P11-12	OVAL & FLAT TOP LED LAMPS	P24	RESISTOR LED LAMPS
P12-16	CYLINDRICAL & RECTANGULAR LED LAMPS	P25	TAPE AND REEL LED LAMPS



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA *70mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
W7676CSURC	InGaAlP	628	water clear	280	500	70°	7.6mm x 7.6mm 
W7676CSURC/E	InGaAlP	630	water clear	*480	*1000	70°	
W7676CSEC/E	InGaAlP	621	water clear	380	600	70°	
W7676CSEC/G	InGaAlP	625	water clear	*650	*1100	70°	
W7676CSEC/H	InGaAlP	630	water clear	480	800	70°	
W7676CSYC	InGaAlP	588	water clear	*1500	*2800	70°	
W7676CSYC/H	InGaAlP	589	water clear	650	1200	70°	
W7676CVGC/H	InGaN	525	water clear	*1800	*3500	70°	
W7676CPBC/H	InGaN	470	water clear	1500	1800	70°	
W7676CPWC/H	InGaN	-	water clear	2500	4300	70°	
				*5700	*9500	70°	
				X=0.33, Y=0.34			
				*2200	*3200	70°	
				X=0.33, Y=0.34			

W7676CSURC04	InGaAlP	628	water clear	280	500	70°	7.6mm x 7.6mm 
W7676CSURC/E04	InGaAlP	630	water clear	*480	*1000	70°	
W7676CSEC/E04	InGaAlP	621	water clear	380	600	70°	
W7676CSEC/G04	InGaAlP	625	water clear	*650	*1100	70°	
W7676CSEC/H04	InGaAlP	630	water clear	480	800	70°	
W7676CSYC04	InGaAlP	588	water clear	*1500	*2800	70°	
W7676CSYC/H04	InGaAlP	589	water clear	650	1200	70°	
W7676CVGC/H04	InGaN	525	water clear	*1800	*3500	70°	
W7676CPBC/H04	InGaN	470	water clear	1500	1800	70°	
W7676CPWC/H04	InGaN	-	water clear	2500	4300	70°	
				*5700	*9500	70°	
				X=0.33, Y=0.34			
				*2200	*3200	70°	
				X=0.33, Y=0.34			

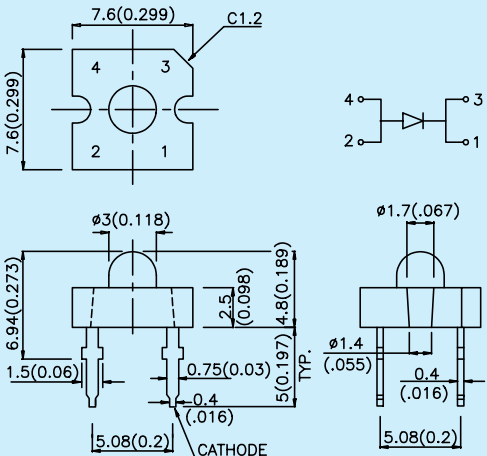
1. DRIVE CURRENT BETWEEN 10mA AND 30mA ARE RECOMMENDED FOR LONG TERM PERFORMANCE.
2. OPERATION AT CURRENT BELOW 10mA IS NOT RECOMMENDED.

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

W76761C

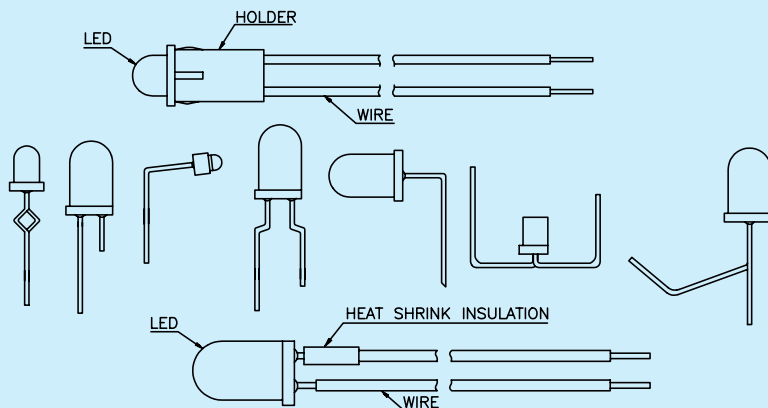


Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA *70mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
W76761CSURC	InGaAlP	628	water clear	900	2000	20°	7.6mm x 7.6mm 
				*3300	*7000	20°	
W76761CSURC/E	InGaAlP	630	water clear	1200	2300	20°	
				*3800	*8000	20°	
W76761CSEC/E	InGaAlP	621	water clear	1800	3400	20°	
				*5700	*10000	20°	
W76761CSEC/G	InGaAlP	625	water clear	2200	3500	20°	
				*6700	*11000	20°	
W76761CSEC/H	InGaAlP	630	water clear	2800	4500	20°	
				*12000	*18000	20°	
W76761CSYC	InGaAlP	588	water clear	380	800	20°	
				*1500	*2700	20°	
W76761CSYC/H	InGaAlP	589	water clear	480	900	20°	
				*1800	*3200	20°	
W76761CVGC/H	InGaN	525	water clear	1800	3400	20°	
				*5700	*8000	20°	
W76761CPBC/H	InGaN	470	water clear	1200	2400	20°	
				*3300	*5800	20°	
W76761CPWC/H	InGaN	-	water clear	1800	4500	20°	
				X=0.33, Y=0.34			
				*7500	*12000	20°	
				X=0.33, Y=0.34			

1. DRIVE CURRENT BETWEEN 10mA AND 30mA ARE RECOMMENDED FOR LONG TERM PERFORMANCE.
2. OPERATION AT CURRENT BELOW 10mA IS NOT RECOMMENDED.

VALUE ADDED LED LAMPS

LED lamp with forming/wire leads available



NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



Part No.	Material	λ P (nm)	Lens Type	Po (mW/sr) @20mA *50mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		

AM4457F3C	GaAs	940	water clear	1.2	3	70°	1.5mm (Side Look)
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W34F3C	GaAs	940	water clear	1.6	10	50°	T-1 (3mm) Round
W34F3BT	GaAs	940	blue transparent	1.6	10	50°	
W34SF4C	GaAlAs	880	water clear	1.6	4	50°	
W34SF4BT	GaAlAs	880	blue transparent	1.6	4	50°	
W34SF6C	GaAlAs	860	water clear	7	15	50°	
W34SF6BT	GaAlAs	860	blue transparent	7	15	50°	
W34SF7C	GaAlAs	850	water clear	7	18	50°	
W34SF7BT	GaAlAs	850	blue transparent	7	18	50°	
				*4	*20	50°	

W934F3C	GaAs	940	water clear	1.6	10	50°	T-1 (3mm) Round
W934F3BT	GaAs	940	blue transparent	4	14	50°	
				*4	*15	50°	

W53F3C	GaAs	940	water clear	7	20	30°	T-1 3/4 (5mm) Round
W53F3BT	GaAs	940	blue transparent	4	20	30°	
W53SF4C	GaAlAs	880	water clear	7	20	30°	
W53SF4BT	GaAlAs	880	blue transparent	4	20	30°	
W53SF6C	GaAlAs	860	water clear	10	40	30°	
W53SF6BT	GaAlAs	860	blue transparent	10	40	30°	
W53SF7C	GaAlAs	850	water clear	10	40	30°	
W53SF7BT	GaAlAs	850	blue transparent	10	40	30°	
				*10	*30	30°	
				*7	*30	30°	
				*4	20	30°	
				*7	20	30°	
				*50	*100	30°	
				*50	*100	30°	
				*50	*100	30°	

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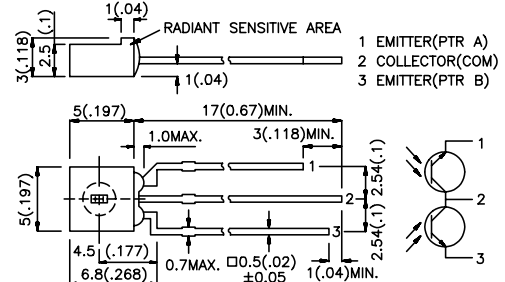


PHOTOTRANSISTOR

W610MP4BT/BD NPN BLACK PLASTIC PHOTOTRANSISTOR

ELECTRICAL AND RADIANT CHARACTERISTICS T_A=25°C

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
V _{BR CEO}	Collector-to-Emitter Breakdown Voltage	30	-	-	V	I _C = 100μA E _e = 0mW/cm ²
V _{BR ECO}	Emitter-to-Collector Breakdown Voltage	5	-	-	V	I _E = 100μA E _e = 0mW/cm ²
V _{CE (SAT)}	Collector-to-Emitter Saturation Voltage	-	-	0.4	V	I _C = 500μA E _e = 5mW/cm ²
I _{CEO}	Collector Dark Current	-	-	100	nA	V _{CE} = 10V E _e = 0mW/cm ²
T _R	Rise Time (10% to 90%)	-	16	-	μs	V _{CE} = 5V I _C = 1mA R _L = 1KΩ
T _F	Fall Time (90% to 10%)	-	18	-	μs	V _{CE} = 5V I _C = 1mA R _L = 1KΩ
I _(ON)	On State Collector Current	0.1	0.5	-	mA	V _{CE} = 5V, E _e = 1mW/cm ² , λ = 940nm
R	Collector Current Ratio of Phototransistor	0.8	1	1.25	Ω	I _{C (on) (a)} / I _{C (on) (b)}



ABSOLUTE MAXIMUM RATING T_A=25°C

Parameter	Max. Ratings
Collector-to-Emitter Breakdown Voltage	30V
Emitter-to-Collector Breakdown Voltage	5V
Power Dissipation at (or below) 25°C Free Air Temperature	100mW
Operating Temperature Range	-55°C ~ +100°C
Storage Temperature Range	-55°C ~ +100°C
Lead Soldering Temperature (>5mm For 5sec)	260°C

T-1 (3mm) PHOTOTRANSISTOR

W32P3C WATER CLEAR LENS

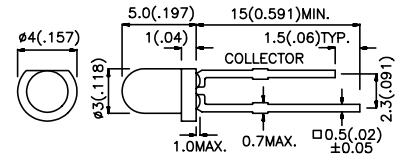
T-1 3/4 (5mm) PHOTOTRANSISTOR

W53P3C WATER CLEAR LENS

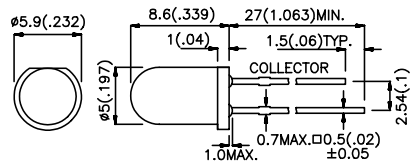
ELECTRICAL AND RADIANT CHARACTERISTICS T_A=25°C

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Condition
V _{BR CEO}	Collector-to-Emitter Breakdown Voltage	30	-	-	V	I _C = 100μA E _e = 0mW/cm ²
V _{BR ECO}	Emitter-to-Collector Breakdown Voltage	5	-	-	V	I _E = 100μA E _e = 0mW/cm ²
V _{CE (SAT)}	Collector-to-Emitter Saturation Voltage	-	-	0.8	V	I _C = 2mA E _e = 20mW/cm ²
I _{CEO}	Collector Dark Current	-	-	100	nA	V _{CE} = 10V E _e = 0mW/cm ²
T _R	Rise Time (10% to 90%)	-	3	-	μs	V _{CE} = 5V I _C = 1mA R _L = 1KΩ
T _F	Fall Time (90% to 10%)	-	3	-	μs	V _{CE} = 5V I _C = 1mA R _L = 1KΩ
I _(ON)	On State Collector Current	0.1	0.5	-	mA	V _{CE} = 5V, E _e = 1mW/cm ² , λ = 940nm

W32P3C



W53P3C



ABSOLUTE MAXIMUM RATING T_A=25°C

Parameter	Max. Ratings
Collector-to-Emitter Breakdown Voltage	30V
Emitter-to-Collector Breakdown Voltage	5V
Power Dissipation at (or below) 25°C Free Air Temperature	100mW
Operating Temperature Range	-40°C ~ +85°C
Storage Temperature Range	-40°C ~ +85°C
Lead Soldering Temperature (>5mm For 5sec)	260°C

NOTES:

- All dimensions are in millimeters(inches).
- Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		

W1060ID	GaAsP/GaP	625	red diffused	8	15	70°	1.8mm Round
W1060SRD	GaAlAs	640	red diffused	*70	*200	70°	
W1060SRC	GaAlAs	640	water clear	*110	*300	30°	
W1060ED	GaAsP/GaP	625	orange diffused	8	15	70°	
W1060YD	GaAsP/GaP	588	yellow diffused	5	8	70°	
W1060GD	GaP	568	green diffused	5	10	70°	

W7104ID	GaAsP/GaP	625	red diffused	8	20	40°	T-1 (3mm) Round
W7104IT	GaAsP/GaP	625	red transparent	18	60	34°	
W7104EC	GaAsP/GaP	625	water clear	18	60	34°	
W7104ED	GaAsP/GaP	625	orange diffused	8	20	40°	
W7104ND	GaAsP/GaP	610	orange diffused	8	30	40°	
W7104NT	GaAsP/GaP	610	orange transparent	18	50	34°	
W7104NC	GaAsP/GaP	610	water clear	18	50	34°	
W7104YD	GaAsP/GaP	588	yellow diffused	5	15	40°	
W7104YT	GaAsP/GaP	588	yellow transparent	8	20	34°	
W7104YC	GaAsP/GaP	588	water clear	8	20	34°	
W7104GD	GaP	568	green diffused	8	20	40°	
W7104GT	GaP	568	green transparent	18	60	34°	
W7104GC	GaP	568	water clear	18	60	34°	
W7104PGD	GaP	555	green diffused	1.8	5	40°	
W7104PGT	GaP	555	green transparent	3	15	34°	
W7104PGC	GaP	555	water clear	3	15	34°	

W1154ID	GaAsP/GaP	625	red diffused	8	25	60°	T-1 (3mm) Round
W1154IT	GaAsP/GaP	625	red transparent	18	60	50°	
W1154ND	GaAsP/GaP	610	orange diffused	8	30	60°	
W1154NT	GaAsP/GaP	610	orange transparent	18	50	50°	
W1154YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W1154YT	GaAsP/GaP	588	yellow transparent	8	20	50°	
W1154GD	GaP	568	green diffused	8	15	60°	
W1154GT	GaP	568	green transparent	18	40	50°	
W1154PGD	GaP	555	green diffused	1.8	5	60°	
W1154PGT	GaP	555	green transparent	3	10	50°	

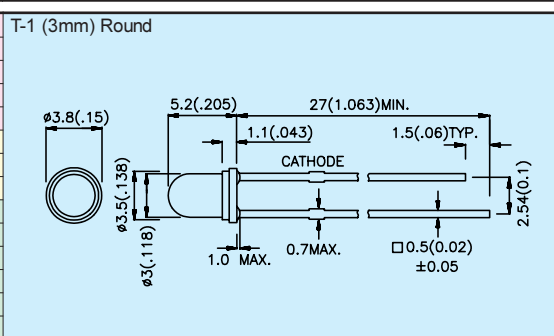
W934HD	GaP	660	red diffused	1	3	60°	T-1 (3mm) Round
W934ID	GaAsP/GaP	625	red diffused	8	20	60°	
W934IT	GaAsP/GaP	625	red transparent	18	60	50°	
W934EC	GaAsP/GaP	625	water clear	18	60	50°	
W934ED	GaAsP/GaP	625	orange diffused	8	20	60°	
W934ND	GaAsP/GaP	610	orange diffused	8	30	60°	
W934NT	GaAsP/GaP	610	orange transparent	18	50	50°	
W934NC	GaAsP/GaP	610	water clear	18	50	50°	
W934YD	GaAsP/GaP	588	yellow diffused	5	15	60°	
W934YT	GaAsP/GaP	588	yellow transparent	8	20	50°	
W934YC	GaAsP/GaP	588	water clear	8	20	50°	
W934GD	GaP	568	green diffused	8	20	60°	
W934GT	GaP	568	green transparent	18	60	50°	
W934GC	GaP	568	water clear	18	60	50°	
W934PGD	GaP	555	green diffused	1.8	5	60°	
W934PGT	GaP	555	green transparent	3	15	50°	
W934PGC	GaP	555	water clear	3	15	50°	

NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

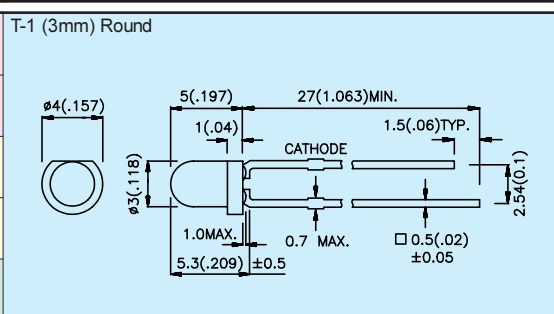


Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2θ/2	Dimension
				Min.	Typ.		

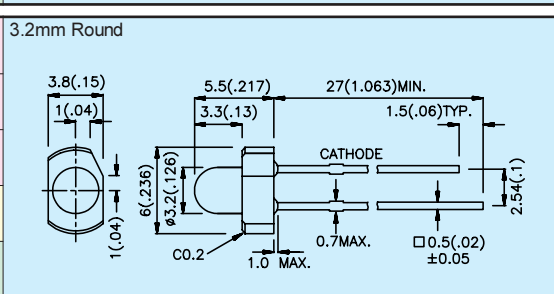
W132XID	GaAsP/GaP	625	red diffused	8	25	60°
W132XIT	GaAsP/GaP	625	red transparent	18	60	50°
W132XND	GaAsP/GaP	610	orange diffused	8	30	60°
W132XNT	GaAsP/GaP	610	orange transparent	18	50	50°
W132XNC	GaAsP/GaP	610	water clear	18	50	50°
W132XYD	GaAsP/GaP	588	yellow diffused	5	15	60°
W132XYT	GaAsP/GaP	588	yellow transparent	8	20	50°
W132XYC	GaAsP/GaP	588	water clear	8	20	50°
W132XGD	GaP	568	green diffused	8	15	60°
W132XGT	GaP	568	green transparent	18	40	50°
W132XGC	GaP	568	water clear	18	40	50°
W132XPGD	GaP	555	green diffused	1.8	5	60°
W132XPGT	GaP	555	green transparent	3	10	50°
W132XPGC	GaP	555	water clear	3	10	50°



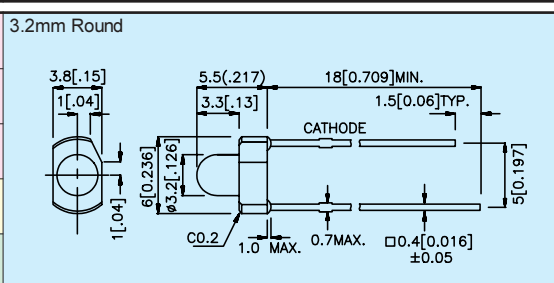
W34HD	GaP	660	red diffused	1	3	60°
W34ID	GaAsP/GaP	625	red diffused	8	25	60°
W34YD	GaAsP/GaP	588	yellow diffused	1.8	6	60°
W34AD	GaAsP/GaP	588	amber diffused	8	15	60°
W34GD	GaP	568	green diffused	5	20	60°



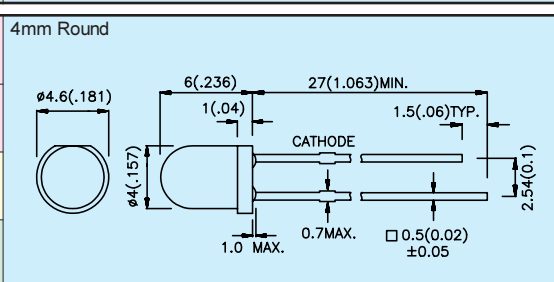
W174XHT	GaP	660	red transparent	1.8	5	100°
W174XIT	GaAsP/GaP	625	red transparent	8	30	100°
W174XSRT	GaAlAs	640	red transparent	*110	*400	100°
W174XYT	GaAsP/GaP	588	yellow transparent	8	30	100°
W174XGT	GaP	568	green transparent	8	30	100°



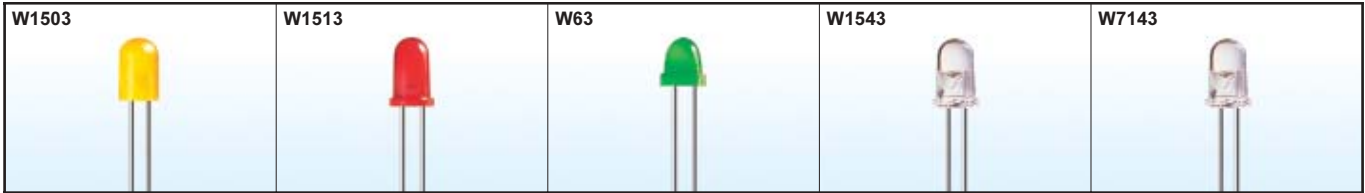
W174A2HT	GaP	660	red transparent	1.8	6	35°
W174A2IT	GaAsP/GaP	625	red transparent	28	90	35°
W174A2SRT	GaAlAs	640	red transparent	*380	*900	35°
W174A2YT	GaAsP/GaP	588	yellow transparent	18	35	35°
W174A2GT	GaP	568	green transparent	12	40	35°



W44HD	GaP	660	red diffused	0.7	2	80°
W44ID	GaAsP/GaP	625	red diffused	5	15	80°
W44YD	GaAsP/GaP	588	yellow diffused	3	10	80°
W44GD	GaP	568	green diffused	3	12	80°



NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		

W1503ID	GaAsP/GaP	625	red diffused	8	30	60°	T-1 3/4 (5mm) Round
W1503IT	GaAsP/GaP	625	red transparent	28	80	30°	
W1503EC	GaAsP/GaP	625	water clear	28	80	30°	
W1503SRC/D	GaAlAs	640	water clear	*900	*1500	30°	
W1503SRC/E	GaAlAs	640	water clear	*1800	*2800	30°	
W1503SRC/F	GaAlAs	640	water clear	*3300	*4000	30°	
W1503SRD	GaAlAs	640	red diffused	*110	*400	60°	
W1503YD	GaAsP/GaP	588	yellow diffused	5	20	60°	
W1503YT	GaAsP/GaP	588	yellow transparent	18	40	30°	
W1503YC	GaAsP/GaP	588	water clear	18	40	30°	
W1503GD	GaP	568	green diffused	5	20	60°	
W1503GT	GaP	568	green transparent	18	60	30°	
W1503GC	GaP	568	water clear	18	60	30°	
W1503SGC	GaP	568	water clear	*70	*200	30°	
W1503SGT	GaP	568	green transparent	*70	*150	30°	

W1513IT	GaAsP/GaP	625	red transparent	40	80	20°	T-1 3/4 (5mm) Round
W1513EC	GaAsP/GaP	625	water clear	40	80	20°	
W1513SURC	InGaAlP	628	water clear	*1200	*1800	20°	
W1513SURC/E	InGaAlP	630	water clear	*1500	*2200	20°	
W1513YT	GaAsP/GaP	588	yellow transparent	18	40	20°	
W1513YC	GaAsP/GaP	588	water clear	18	40	20°	
W1513GT	GaP	568	green transparent	18	50	20°	
W1513GC	GaP	568	water clear	18	50	20°	

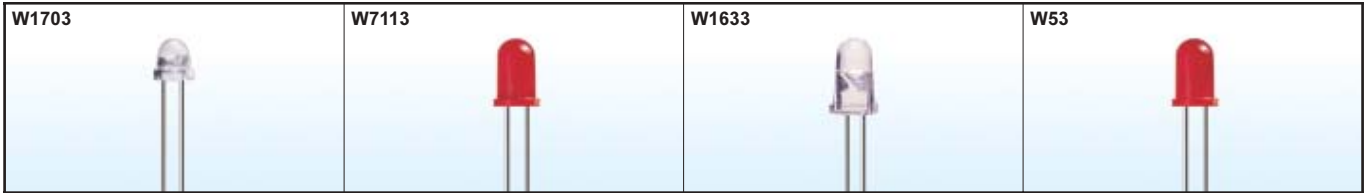
W63ID	GaAsP/GaP	625	red diffused	12	20	60°	T-1 3/4 (5mm) Round
W63IT	GaAsP/GaP	625	red transparent	28	50	30°	
W63SRD	GaAlAs	640	red diffused	*110	*300	60°	
W63SRT	GaAlAs	640	red transparent	*280	*600	30°	
W63SRC	GaAlAs	640	water clear	*180	*700	30°	
W63YD	GaAsP/GaP	588	yellow diffused	5	10	60°	
W63YT	GaAsP/GaP	588	yellow transparent	18	35	30°	
W63GD	GaP	568	green diffused	5	12	60°	
W63GT	GaP	568	green transparent	18	40	30°	

W1543SRC/C	GaAlAs	640	water clear	*380	*600	50°	T-1 3/4 (5mm) Round
W1543SRC/D	GaAlAs	640	water clear	*650	*900	50°	
W1543SRC/E	GaAlAs	640	water clear	*900	*2000	50°	
W1543SURC	InGaAlP	628	water clear	*480	*850	50°	
W1543SURC/E	InGaAlP	630	water clear	*650	*1300	50°	
W1543SGC	GaP	568	water clear	*70	*150	50°	

W7143SRC/C	GaAlAs	640	water clear	*380	*600	30°	T-1 3/4 (5mm) Round
W7143SRC/D	GaAlAs	640	water clear	*650	*900	30°	
W7143SRC/E	GaAlAs	640	water clear	*900	*2000	30°	
W7143SGC	GaP	568	water clear	*70	*150	30°	

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		

W1703SURC	InGaAlP	628	water clear	*280	*700	50°	T-1 3/4 (5mm) Round
W1703SURC/E	InGaAlP	630	water clear	*650	*1000	50°	

W7113ID	GaAsP/GaP	625	red diffused	8	25	30°	T-1 3/4 (5mm) Round
W7113IT	GaAsP/GaP	625	red transparent	28	80	20°	
W7113EC	GaAsP/GaP	625	water clear	28	80	20°	
W7113ED	GaAsP/GaP	625	orange diffused	8	25	30°	
W7113ND	GaAsP/GaP	610	orange diffused	12	30	30°	
W7113NT	GaAsP/GaP	610	orange transparent	40	80	20°	
W7113NC	GaAsP/GaP	610	water clear	40	80	20°	
W7113YD	GaAsP/GaP	588	yellow diffused	5	20	30°	
W7113YT	GaAsP/GaP	588	yellow transparent	18	40	20°	
W7113YC	GaAsP/GaP	588	water clear	18	40	20°	
W7113GD	GaP	568	green diffused	5	20	30°	
W7113GT	GaP	568	green transparent	18	60	20°	
W7113GC	GaP	568	water clear	18	60	20°	
W7113PGD	GaP	555	green diffused	1.8	5	30°	
W7113PGT	GaP	555	green transparent	5	10	20°	
W7113PGC	GaP	555	water clear	5	10	20°	

W1633SURC	InGaAlP	628	water clear	*650	*1600	50°	T-1 3/4 (5mm) Round
W1633SURC/E	InGaAlP	630	water clear	*1200	*2000	50°	

W53HD	GaP	660	red diffused	1.8	5	60°	T-1 3/4 (5mm) Round
W53ID	GaAsP/GaP	625	red diffused	8	25	60°	
W53IT	GaAsP/GaP	625	red transparent	28	80	30°	
W53EC	GaAsP/GaP	625	water clear	28	80	30°	
W53ED	GaAsP/GaP	625	orange diffused	8	25	60°	
W53ND	GaAsP/GaP	610	orange diffused	12	30	60°	
W53NT	GaAsP/GaP	610	orange transparent	40	80	30°	
W53NC	GaAsP/GaP	610	water clear	40	80	30°	
W53YD	GaAsP/GaP	588	yellow diffused	5	20	60°	
W53YT	GaAsP/GaP	588	yellow transparent	18	40	30°	
W53YC	GaAsP/GaP	588	water clear	18	40	30°	
W53GD	GaP	568	green diffused	5	20	60°	
W53GT	GaP	568	green transparent	18	60	30°	
W53GC	GaP	568	water clear	18	60	30°	
W53PGD	GaP	555	green diffused	1.8	5	60°	
W53PGT	GaP	555	green transparent	5	10	30°	
W53PGC	GaP	555	water clear	5	10	30°	

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		

W2523SURC	InGaAlP	628	water clear	*1200	*2000	12°	T-1 3/4 (5mm) Round
W2523SURC/E	InGaAlP	630	water clear	*1500	*2500	12°	

W7083SED/H	InGaAlP	630	orange diffused	*2200	*3600	60°	5mm Round
W7083SYD/H	InGaAlP	589	yellow diffused	*180	*420	60°	
W7083VGD/H	InGaN	525	green diffused	*1500	*2200	60°	
W7083PBD/H	InGaN	470	blue diffused	*280	*450	60°	
W7083PWW/H	InGaN	-	white diffused	*480	*1000	60°	
				X=0.33, Y=0.34			

W7524SEC/H	InGaAlP	630	water clear	*3800	*7500	12°	5mm Round
W7524SYC/H	InGaAlP	589	water clear	*1800	*2800	12°	
W7524VGC/H	InGaN	525	water clear	*7500	*13000	12°	
W7524PBC/H	InGaN	470	water clear	*1800	*3300	12°	
W7524PWC/H	InGaN	-	water clear	*3800	*7500	12°	
				X=0.33, Y=0.34			

W793ID	GaAsP/GaP	625	red diffused	*36	*100	60°	8mm Round
W793SRC/D	GaAlAs	640	water clear	*1500	*1700	40°	
W793SRC/E	GaAlAs	640	water clear	*1800	*2700	40°	
W793SRC/F	GaAlAs	640	water clear	*2800	*3800	40°	
W793SRD/C	GaAlAs	640	red diffused	*180	*250	60°	
W793SRD/D	GaAlAs	640	red diffused	*280	*350	60°	
W793SRD/E	GaAlAs	640	red diffused	*380	*450	60°	
W793SRD/F	GaAlAs	640	red diffused	*480	*600	60°	
W793SRD/G	GaAlAs	640	red diffused	*650	*700	60°	
W793SRD/H	GaAlAs	640	red diffused	*900	*1200	60°	
W793ED	GaAsP/GaP	625	orange diffused	*36	*100	60°	
W793YD	GaAsP/GaP	588	yellow diffused	*18	*50	60°	
W793GD	GaP	568	green diffused	*18	*60	60°	

W813ID	GaAsP/GaP	625	red diffused	*36	*100	60°	10mm Round
W813SRC/D	GaAlAs	640	water clear	*1500	*1700	40°	
W813SRC/E	GaAlAs	640	water clear	*1800	*2700	40°	
W813SRC/F	GaAlAs	640	water clear	*2800	*3800	40°	
W813SRD/C	GaAlAs	640	red diffused	*180	*250	60°	
W813SRD/D	GaAlAs	640	red diffused	*280	*350	60°	
W813SRD/E	GaAlAs	640	red diffused	*380	*450	60°	
W813SRD/F	GaAlAs	640	red diffused	*480	*600	60°	
W813SRD/G	GaAlAs	640	red diffused	*650	*700	60°	
W813SRD/H	GaAlAs	640	red diffused	*900	*1200	60°	
W813ED	GaAsP/GaP	625	orange diffused	*36	*100	60°	
W813YD	GaAsP/GaP	588	yellow diffused	*18	*50	60°	
W813GD	GaP	568	green diffused	*18	*60	60°	

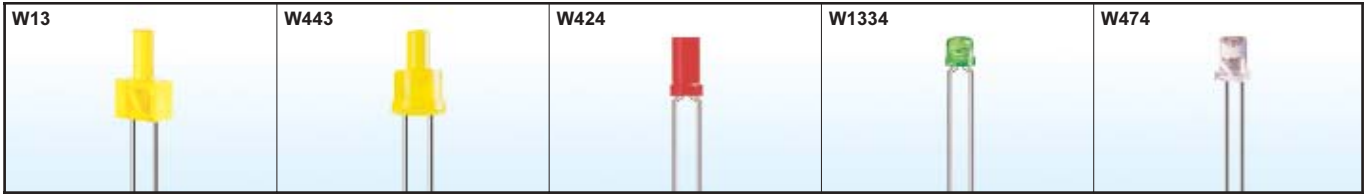
NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01")$ unless otherwise noted.



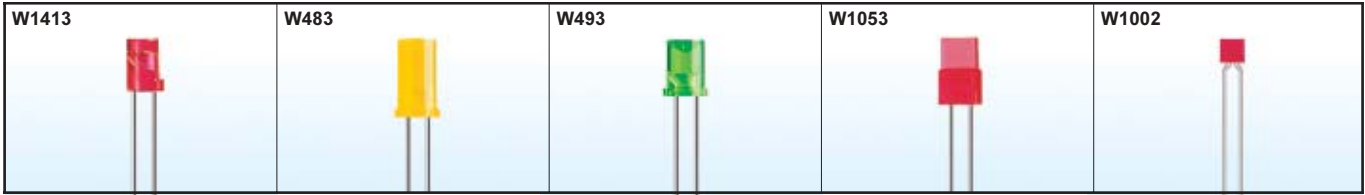
Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
W374A2IT	GaAsP/GaP	625	red transparent	8	20	60° (H) 55° (V)	3.6mm x 3.1mm Oval
W374A2AT	GaAsP/GaP	588	amber transparent	3	9	60° (H) 55° (V)	
W374A2YT	GaAsP/GaP	588	yellow transparent	3	10	60° (H) 55° (V)	
W374A2GT	GaP	568	green transparent	5	15	60° (H) 55° (V)	
W7123SURC	InGaAlP	628	water clear	*280	*600	30° (H) 88° (V)	4mm Oval
W7123SYC	InGaAlP	588	water clear	*110	*250	30° (H) 88° (V)	
W7123MGC	InGaAlP	568	water clear	*110	*250	30° (H) 88° (V)	
W7123VGC	InGaN	525	water clear	*380	*800	30° (H) 88° (V)	
W5603SIDL/H/SD	InGaAlP	630	red semi diffused	*1500	*2500	100° (H) 50° (V)	5.2mm Oval
W5603SYDL/H/SD	InGaAlP	589	yellow semi diffused	*380	*750	100° (H) 50° (V)	
W5603VGDL/H/SD	InGaN	525	green semi diffused	*650	*2100	100° (H) 50° (V)	
W5603PBDL/H/SD	InGaN	470	blue semi diffused	*480	*1100	100° (H) 50° (V)	
W1394HD	GaP	660	red diffused	0.4	1	120°	2mm Flat Top
W1394ID	GaAsP/GaP	625	red diffused	5	8	120°	
W1394YD	GaAsP/GaP	588	yellow diffused	1.8	5	120°	
W1394GD	GaP	568	green diffused	3	5	120°	
W1034HD	GaP	660	red diffused	0.4	1	70°	2mm Flat Top
W1034ID	GaAsP/GaP	625	red diffused	3	8	70°	
W1034YD	GaAsP/GaP	588	yellow diffused	1.8	5	70°	
W1034GD	GaP	568	green diffused	1.8	6	70°	

NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
W13HD	GaP	660	red diffused	0.4	1.5	70°	2mm Flat Top
W13ID	GaAsP/GaP	625	red diffused	5	10	70°	
W13YD	GaAsP/GaP	588	yellow diffused	3	8	70°	
W13GD	GaP	568	green diffused	3	10	70°	
W443HDT	GaP	660	red diffused	0.4	2	100°	2.4mm Flat Top
W443IDT	GaAsP/GaP	625	red diffused	3	10	100°	
W443EDT	GaAsP/GaP	625	orange diffused	3	10	100°	
W443YDT	GaAsP/GaP	588	yellow diffused	1	5	100°	
W443GDT	GaP	568	green diffused	1	5	100°	
W424HDT	GaP	660	red diffused	0.4	1	100°	T-1 (3mm) Cylindrical
W424IDT	GaAsP/GaP	625	red diffused	3	5	100°	
W424SRDT	GaAlAs	640	red diffused	*36	*100	100°	
W424EDT	GaAsP/GaP	625	orange diffused	3	5	100°	
W424YDT	GaAsP/GaP	588	yellow diffused	1	4	100°	
W424GDT	GaP	568	green diffused	1	4	100°	
W1334IT	GaAsP/GaP	625	red transparent	3	5	130°	T-1 (3mm) Cylindrical
W1334EC	GaAsP/GaP	625	water clear	3	5	130°	
W1334SRT	GaAlAs	640	red transparent	*18	*60	130°	
W1334SRC	GaAlAs	640	water clear	*18	*60	130°	
W1334SRWT	GaAlAs	640	white diffused	*18	*50	130°	
W1334NT	GaAsP/GaP	610	orange transparent	3	8	130°	
W1334NC	GaAsP/GaP	610	water clear	3	8	130°	
W1334YT	GaAsP/GaP	588	yellow transparent	1	3	130°	
W1334YC	GaAsP/GaP	588	water clear	1	3	130°	
W1334GT	GaP	568	green transparent	1.8	6	130°	
W1334GC	GaP	568	water clear	1.8	6	130°	
W1334SGT	GaP	568	green transparent	*4	*10	130°	
W1334SGC	GaP	568	water clear	*4	*10	130°	
W1334PGT	GaP	555	green transparent	0.7	1.5	130°	
W1334PGC	GaP	555	water clear	0.7	1.5	130°	
W474IT	GaAsP/GaP	625	red transparent	3	8	130°	T-1 (3mm) Cylindrical
W474EC	GaAsP/GaP	625	water clear	3	8	130°	
W474YT	GaAsP/GaP	588	yellow transparent	1.8	5	130°	
W474YC	GaAsP/GaP	588	water clear	1.8	5	130°	
W474GT	GaP	568	green transparent	1.8	5	130°	
W474GC	GaP	568	water clear	1.8	5	130°	

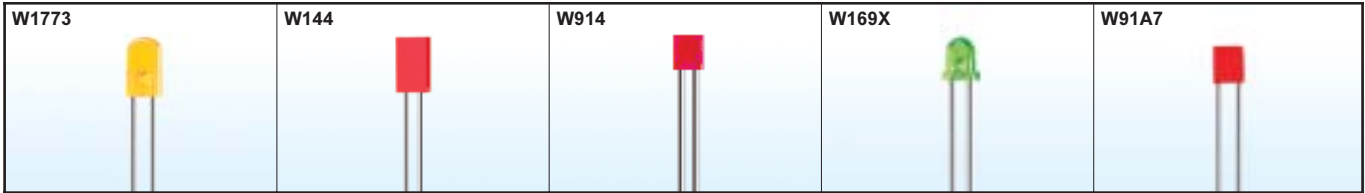
NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2θ/2	Dimension
				Min.	Typ.		
W1413HDT	GaP	660	red diffused	0.3	1	100°	4mm Cylindrical
W1413IDT	GaAsP/GaP	625	red diffused	3	5	100°	
W1413ITL	GaAsP/GaP	625	red transparent	12	20	70°	
W1413SRDT	GaAlAs	640	red diffused	*50	*80	100°	
W1413YDT	GaAsP/GaP	588	yellow diffused	1	3	100°	
W1413GDT	GaP	568	green diffused	1	3	100°	
W1413SGDL	GaP	568	green diffused	*2.6	*10	100°	
W483HDT	GaP	660	red diffused	0.4	1	100°	T-1 3/4 (5mm) Cylindrical
W483IDT	GaAsP/GaP	625	red diffused	1.8	5	100°	
W483EDT	GaAsP/GaP	625	orange diffused	3	7	100°	
W483YDT	GaAsP/GaP	588	yellow diffused	1	4	100°	
W483GDT	GaP	568	green diffused	1	4	100°	
W483SRSGW	GaAlAs GaP	640 568	white diffused	*18 *4	*50 *10	80°	
W493IT	GaAsP/GaP	625	red transparent	1.8	6	140°	T-1 3/4 (5mm) Cylindrical
W493EC	GaAsP/GaP	625	water clear	1.8	6	140°	
W493YT	GaAsP/GaP	588	yellow transparent	1	4	140°	
W493YC	GaAsP/GaP	588	water clear	1	4	140°	
W493GT	GaP	568	green transparent	1.8	5	140°	
W493GC	GaP	568	water clear	1.8	5	140°	
W1053HDT	GaP	660	red diffused	0.4	1	110°	1mm x 5mm Rectangular
W1053IDT	GaAsP/GaP	625	red diffused	3	8	110°	
W1053YDT	GaAsP/GaP	588	yellow diffused	1.8	5	110°	
W1053GDT	GaP	568	green diffused	1.8	5	110°	
W1002HD	GaP	660	red diffused	0.3	0.7	110°	1.1mm x 3.4mm Rectangular
W1002ID	GaAsP/GaP	625	red diffused	1	3	110°	
W1002YD	GaAsP/GaP	588	yellow diffused	0.4	2.5	110°	
W1002GD	GaP	568	green diffused	0.4	2.5	110°	

NOTES:

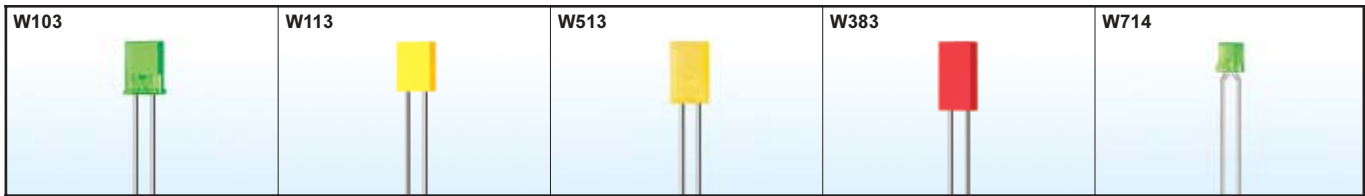
1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
W1773HD	GaP	660	red diffused	0.7	2	100°	1.75mm x 4mm Rectangular
W1773ID	GaAsP/GaP	625	red diffused	5	10	100°	
W1773ED	GaAsP/GaP	625	orange diffused	5	10	100°	
W1773ND	GaAsP/GaP	610	orange diffused	5	8	100°	
W1773YD	GaAsP/GaP	588	yellow diffused	3	8	100°	
W1773GD	GaP	568	green diffused	3	10	100°	
W144HDT	GaP	660	red diffused	0.4	1	110°	1.9mm x 3.9mm Rectangular
W144IDT	GaAsP/GaP	625	red diffused	3	6	110°	
W144SRDT	GaAlAs	640	red diffused	*36	*70	110°	
W144EDT	GaAsP/GaP	625	orange diffused	3	6	110°	
W144YDT	GaAsP/GaP	588	yellow diffused	1	3	110°	
W144GDT	GaP	568	green diffused	1	4	110°	
W914HD	GaP	660	red diffused	0.2	1	100°	2mm x 3mm Rectangular
W914HT	GaP	660	red transparent	0.4	1	90°	
W914ID	GaAsP/GaP	625	red diffused	1.8	8	100°	
W914IT	GaAsP/GaP	625	red transparent	3	8	90°	
W914ED	GaAsP/GaP	625	orange diffused	1.8	8	100°	
W914ET	GaAsP/GaP	625	orange transparent	3	8	90°	
W914AD	GaAsP/GaP	588	amber diffused	1.8	5	100°	
W914AT	GaAsP/GaP	588	amber transparent	1.8	7	90°	
W914GD	GaP	568	green diffused	1.8	6	100°	
W914GT	GaP	568	green transparent	3	8	90°	
W914PGT	GaP	555	green transparent	0.4	1	90°	
W169XHD	GaP	660	red diffused	1	3	100°	2mm x 3mm Rectangular
W169XHT	GaP	660	red transparent	1.8	5	30°	
W169XID	GaAsP/GaP	625	red diffused	8	15	100°	
W169XIT	GaAsP/GaP	625	red transparent	12	30	30°	
W169XYD	GaAsP/GaP	588	yellow diffused	5	10	100°	
W169XYT	GaAsP/GaP	588	yellow transparent	5	15	30°	
W169XAT	GaAsP/GaP	588	amber transparent	5	15	30°	
W169XGD	GaP	568	green diffused	5	15	100°	
W169XGT	GaP	568	green transparent	5	20	30°	
W169XPGD	GaP	555	green diffused	1.8	5	100°	
W169XPGTL	GaP	555	green transparent	3	8	30°	
W91A7ID	GaAsP/GaP	625	red diffused	3	8	60°	2mm x 3mm Rectangular
W91A7YD	GaAsP/GaP	588	yellow diffused	1	3.5	60°	
W91A7GD	GaP	568	green diffused	3	7	60°	

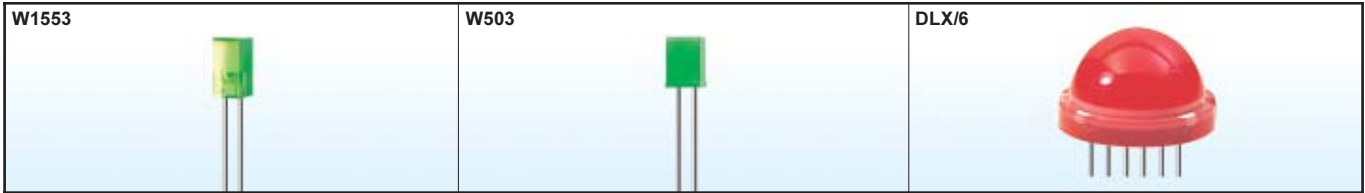
NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
W103HD	GaP	660	red diffused	0.4	1	110°	2mm x 5mm Rectangular
W103ID	GaAsP/GaP	625	red diffused	3	5	110°	
W103SRD	GaAlAs	640	red diffused	*36	*80	110°	
W103ED	GaAsP/GaP	625	orange diffused	3	5	110°	
W103YD	GaAsP/GaP	588	yellow diffused	1	4	110°	
W103GD	GaP	568	green diffused	1.8	5	110°	
W113HDT	GaP	660	red diffused	0.4	1	110°	2mm x 5mm Rectangular
W113IDT	GaAsP/GaP	625	red diffused	3	5	110°	
W113SRDT	GaAlAs	640	red diffused	*36	*80	110°	
W113EDT	GaAsP/GaP	625	orange diffused	3	5	110°	
W113YDT	GaAsP/GaP	588	yellow diffused	1	4	110°	
W113GDT	GaP	568	green diffused	1.8	5	110°	
W113SRSGWT	GaAlAs	640	white diffused	*36	*70	100°	
	GaP	568	white diffused	*7	*10	100°	
W513HDT	GaP	660	red diffused	0.4	1	110°	2.5mm x 5mm Rectangular
W513IDT	GaAsP/GaP	625	red diffused	1.8	5	110°	
W513EDT	GaAsP/GaP	625	orange diffused	1.8	5	110°	
W513YDT	GaAsP/GaP	588	yellow diffused	1	3	110°	
W513GDT	GaP	568	green diffused	1	3	110°	
W513SGDT	GaP	568	green diffused	*7	*10	110°	
W383HDT	GaP	660	red diffused	0.4	1	110°	2.5mm x 5mm Rectangular
W383IDT	GaAsP/GaP	625	red diffused	3	5	110°	
W383SRDT	GaAlAs	640	red diffused	*36	*70	110°	
W383SRWT	GaAlAs	640	white diffused	*36	*70	110°	
W383EDT	GaAsP/GaP	625	orange diffused	3	5	110°	
W383YDT	GaAsP/GaP	588	yellow diffused	1	4	110°	
W383GDT	GaP	568	green diffused	1	4	110°	
W383SGWT	GaP	568	white diffused	*7	*15	110°	
W714HD	GaP	660	red diffused	0.4	1	110°	3mm x 3mm Square
W714ID	GaAsP/GaP	625	red diffused	3	5	110°	
W714SRD	GaAlAs	640	red diffused	*36	*70	110°	
W714ED	GaAsP/GaP	625	orange diffused	3	5	110°	
W714YD	GaAsP/GaP	588	yellow diffused	1	5	110°	
W714GD	GaP	568	green diffused	1	5	110°	

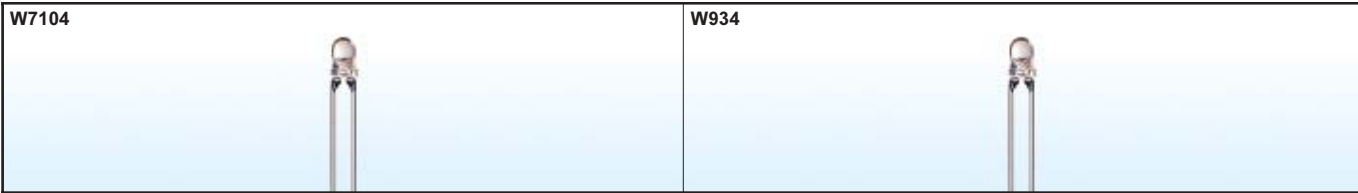
NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.

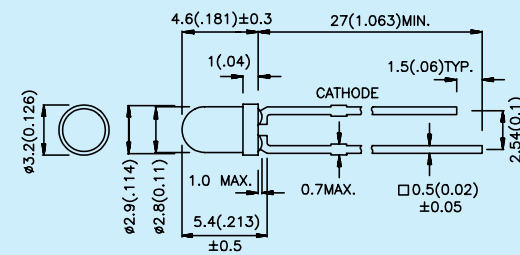


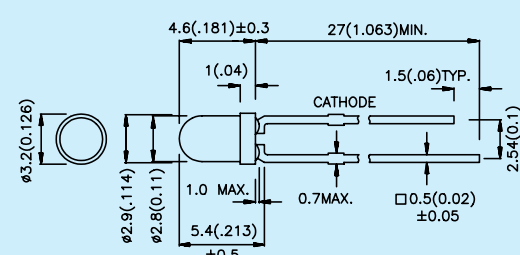
Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
W1553HDT	GaP	660	red diffused	0.4	1	110°	5mm x 5mm Square
W1553IDT	GaAsP/GaP	625	red diffused	3	8	110°	
W1553SRDT	GaAlAs	640	red diffused	*36	*80	110°	
W1553EDT	GaAsP/GaP	625	orange diffused	3	8	110°	
W1553YDT	GaAsP/GaP	588	yellow diffused	1	5	110°	
W1553GDT	GaP	568	green diffused	1	5	110°	
W503HDT	GaP	660	red diffused	0.4	1	110°	5mm x 5mm Square
W503IDT	GaAsP/GaP	625	red diffused	3	6	110°	
W503YDT	GaAsP/GaP	588	yellow diffused	1	3	110°	
W503GDT	GaP	568	green diffused	1	3	110°	
DLA/6ID DLC/6ID	GaAsP/GaP	625	red diffused	12	50	120°	20mm <p>ORIENTATION MARK</p> <p>DLA/6 1 3 5 7 9 11 2 4 6 8 10 12</p> <p>DLC/6 1 3 5 7 9 11 2 4 6 8 10 12</p>
DLA/6SRD DLC/6SRD	GaAlAs	640	red diffused	*100	*400	120°	
DLA/6YD DLC/6YD	GaAsP/GaP	588	yellow diffused	12	50	120°	
DLA/6GD DLC/6GD	GaP	568	green diffused	20	80	120°	
DLA/6SGD DLC/6SGD	GaP	568	green diffused	*70	*200	120°	

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.

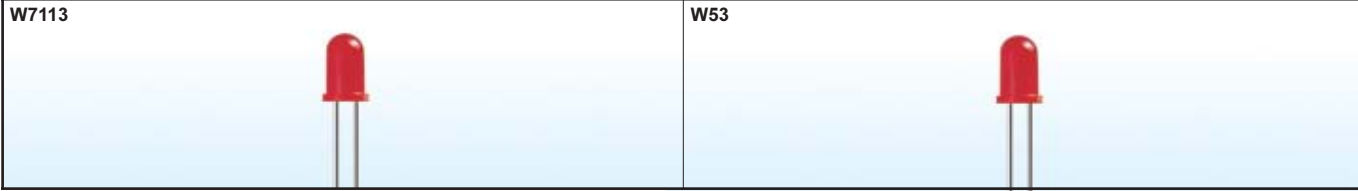


Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
W7104SRC/D	GaAlAs	640	water clear	480	600	34°	T-1 (3mm) Round 
W7104SRC/E	GaAlAs	640	water clear	650	800	34°	
W7104SRC/F	GaAlAs	640	water clear	900	1100	34°	
W7104SRC/G	GaAlAs	640	water clear	1200	1300	34°	
W7104SRC/H	GaAlAs	640	water clear	1500	1700	34°	
W7104SRC/J	GaAlAs	640	water clear	1800	2300	34°	
W7104SRD/D	GaAlAs	640	red diffused	110	150	40°	
W7104SRD/E	GaAlAs	640	red diffused	180	250	40°	
W7104SRD/F	GaAlAs	640	red diffused	280	350	40°	
W7104SRD/G	GaAlAs	640	red diffused	380	500	40°	
W7104SRD/H	GaAlAs	640	red diffused	650	800	40°	
W7104SRD/J	GaAlAs	640	red diffused	900	1200	40°	
W7104SURC/E	InGaAlP	630	water clear	900	1300	34°	
W7104SEC	InGaAlP	601	water clear	480	1300	34°	
W7104SET	InGaAlP	601	orange transparent	480	1300	34°	
W7104SED	InGaAlP	601	orange diffused	280	800	40°	
W7104SEC/E	InGaAlP	621	water clear	900	2000	34°	
W7104SEC/H	InGaAlP	630	water clear	1800	3500	34°	
W7104SYC	InGaAlP	588	water clear	280	700	34°	
W7104SYT	InGaAlP	588	yellow transparent	280	700	34°	
W7104SYD	InGaAlP	588	yellow diffused	110	250	40°	
W7104SYC/H	InGaAlP	589	water clear	480	900	34°	
W7104SGC	GaP	568	water clear	70	150	34°	
W7104SGD	GaP	568	green diffused	18	40	40°	
W7104CGCK	InGaAlP	570	water clear	110	350	34°	
W7104VGC/E	InGaN	525	water clear	1500	2000	34°	
W7104MBDK	GaN	466	blue diffused	7	25	30°	
W7104MBTK	GaN	466	blue transparent	10	40	20°	
W7104MBCK	GaN	466	water clear	18	60	20°	
W7104PBD	InGaN	470	blue diffused	70	200	30°	
W7104PBT	InGaN	470	blue transparent	110	250	20°	
W7104PBC	InGaN	470	water clear	180	450	20°	
W7104PBC/E	InGaN	470	water clear	280	550	20°	
W7104MWC	GaN	-	water clear	50	180	34°	
				X=0.33, Y=0.34			
W7104PWC	InGaN	-	water clear	180	600	34°	
				X=0.33, Y=0.34			

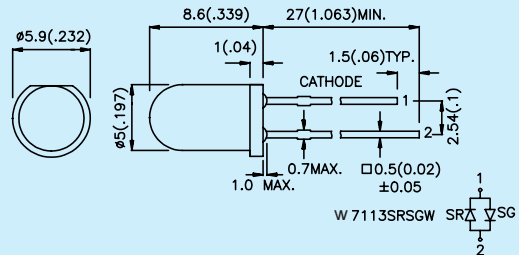
W934SRC/D	GaAlAs	640	water clear	480	600	50°	T-1 (3mm) Round 
W934SRC/E	GaAlAs	640	water clear	650	800	50°	
W934SRC/F	GaAlAs	640	water clear	900	1100	50°	
W934SRC/G	GaAlAs	640	water clear	1200	1300	50°	
W934SRC/H	GaAlAs	640	water clear	1500	1700	50°	
W934SRC/J	GaAlAs	640	water clear	1800	2300	50°	
W934SRD/D	GaAlAs	640	red diffused	110	150	60°	
W934SRD/E	GaAlAs	640	red diffused	180	250	60°	
W934SRD/F	GaAlAs	640	red diffused	280	350	60°	
W934SRD/G	GaAlAs	640	red diffused	380	500	60°	
W934SRD/H	GaAlAs	640	red diffused	650	800	60°	
W934SRD/J	GaAlAs	640	red diffused	900	1200	60°	
W934SURC/E	InGaAlP	628	water clear	480	1000	50°	
W934SEC	InGaAlP	601	water clear	480	1300	50°	
W934SET	InGaAlP	601	orange transparent	480	1300	50°	
W934SED	InGaAlP	601	orange diffused	280	800	60°	
W934SEC/E	InGaAlP	621	water clear	900	2000	50°	
W934SEC/H	InGaAlP	630	water clear	1800	3500	50°	
W934SYC	InGaAlP	588	water clear	280	700	50°	
W934SYT	InGaAlP	588	yellow transparent	280	700	50°	
W934SYD	InGaAlP	588	yellow diffused	110	250	60°	
W934SYC/H	InGaAlP	589	water clear	480	900	50°	
W934SGC	GaP	568	water clear	70	150	50°	
W934SGD	GaP	568	green diffused	18	40	60°	
W934CGCK	InGaAlP	570	water clear	110	350	50°	
W934VGC/E	InGaN	525	water clear	1500	2000	50°	
W934MBD	GaN	466	blue diffused	18	50	60°	
W934MBT	GaN	466	blue transparent	36	60	20°	
W934MBC	GaN	466	water clear	36	80	20°	
W934MBDK	GaN	466	blue diffused	7	25	60°	
W934MBTK	GaN	466	blue transparent	10	40	20°	
W934MBCK	GaN	466	water clear	18	60	20°	
W934PBC/E	InGaN	470	water clear	280	550	20°	

NOTES:

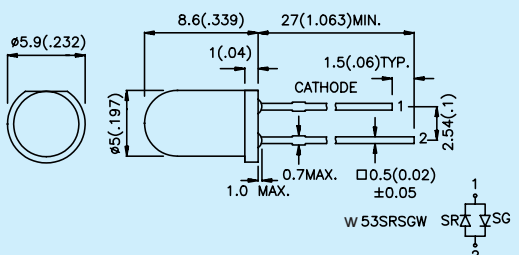
1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
W7113SRC/DU	GaAlAs	640	water clear	900	1100	20°	T-1 3/4 (5mm) Round
W7113SRC/DV	GaAlAs	640	water clear	1200	1400	20°	
W7113SRC/DW	GaAlAs	640	water clear	1500	1700	20°	
W7113SRC/E	GaAlAs	640	water clear	1800	2800	20°	
W7113SRC/F	GaAlAs	640	water clear	3300	4000	20°	
W7113SRD/D	GaAlAs	640	red diffused	180	250	30°	
W7113SRD/E	GaAlAs	640	red diffused	280	400	30°	
W7113SRD/F	GaAlAs	640	red diffused	480	600	30°	
W7113SRD/G	GaAlAs	640	red diffused	650	800	30°	
W7113SRD/H	GaAlAs	640	red diffused	900	1500	30°	
W7113SURC	InGaAlP	628	water clear	1200	1400	20°	
W7113SURC/E	InGaAlP	630	water clear	1500	2200	20°	
W7113SEC	InGaAlP	601	water clear	650	2500	20°	
W7113SET	InGaAlP	601	orange transparent	650	2500	20°	
W7113SED	InGaAlP	601	orange diffused	380	800	30°	
W7113SEC/E	InGaAlP	621	water clear	1500	5000	20°	
W7113SEC/H	InGaAlP	630	water clear	6700	10000	20°	
W7113SYC	InGaAlP	588	water clear	380	1200	20°	
W7113SYT	InGaAlP	588	yellow transparent	380	1200	20°	
W7113SYD	InGaAlP	588	yellow diffused	110	400	30°	
W7113SYC/H	InGaAlP	589	water clear	1500	2100	20°	
W7113SGC	GaP	568	water clear	70	200	20°	
W7113SGD	GaP	568	green diffused	18	40	30°	
W7113CGCK	InGaAlP	570	water clear	380	900	20°	
W7113VGC/E	InGaN	525	water clear	2800	4500	20°	
W7113MBDK	GaN	466	blue diffused	10	40	20°	
W7113MBTK	GaN	466	blue transparent	36	65	16°	
W7113MBCK	GaN	466	water clear	50	110	16°	
W7113PBD	InGaN	470	blue diffused	70	400	20°	
W7113PBT	InGaN	470	blue transparent	280	450	16°	
W7113PBC	InGaN	470	water clear	280	1000	16°	
W7113PBC/E	InGaN	470	water clear	650	1200	16°	
W7113MWC	GaN	-	water clear	70	200	20°	
				X=0.33, Y=0.34			
W7114PWC	InGaN	-	water clear	480	1200	20°	
				X=0.33, Y=0.34			
W7113SRSGW	GaAlAs	640	white diffused	110	200	35°	
	GaP	568		18	60		

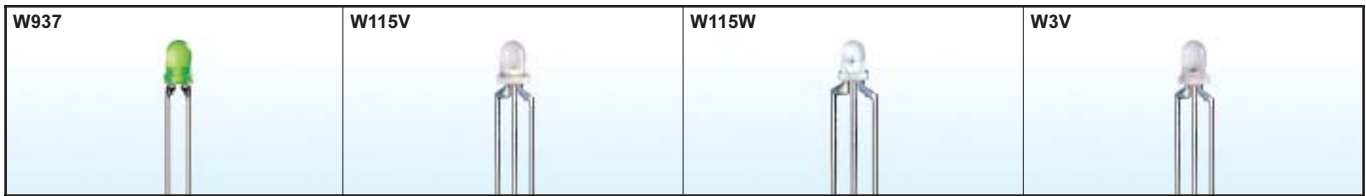


W53SRC/DU	GaAlAs	640	water clear	900	1100	30°	T-1 3/4 (5mm) Round
W53SRC/DV	GaAlAs	640	water clear	1200	1400	30°	
W53SRC/DW	GaAlAs	640	water clear	1500	1700	30°	
W53SRC/E	GaAlAs	640	water clear	1800	2800	30°	
W53SRC/F	GaAlAs	640	water clear	3300	4000	30°	
W53SRD/D	GaAlAs	640	red diffused	180	250	60°	
W53SRD/E	GaAlAs	640	red diffused	280	400	60°	
W53SRD/F	GaAlAs	640	red diffused	480	600	60°	
W53SRD/G	GaAlAs	640	red diffused	650	800	60°	
W53SRD/H	GaAlAs	640	red diffused	900	1500	60°	
W53SURC	InGaAlP	628	water clear	1200	1400	30°	
W53SURC/E	InGaAlP	630	water clear	1500	2200	30°	
W53SEC	InGaAlP	601	water clear	650	2500	30°	
W53SET	InGaAlP	601	orange transparent	650	2500	30°	
W53SED	InGaAlP	601	orange diffused	380	800	60°	
W53SEC/E	InGaAlP	621	water clear	1500	5000	30°	
W53SEC/H	InGaAlP	630	water clear	6700	10000	30°	
W53SYC	InGaAlP	588	water clear	380	1200	30°	
W53SYT	InGaAlP	588	yellow transparent	380	1200	30°	
W53SYD	InGaAlP	588	yellow diffused	110	400	60°	
W53SYC/H	InGaAlP	589	water clear	1500	2100	30°	
W53SGC	GaP	568	water clear	70	200	30°	
W53SGD	GaP	568	green diffused	18	40	60°	
W53CGCK	InGaAlP	570	water clear	380	900	30°	
W53VGC/E	InGaN	525	water clear	2800	4500	30°	
W53MBD	GaN	466	blue diffused	36	60	60°	
W53MBT	GaN	466	blue transparent	50	100	16°	
W53MBC	GaN	466	water clear	50	150	16°	
W53MBDK	GaN	466	blue diffused	10	40	60°	
W53MBTK	GaN	466	blue transparent	36	65	16°	
W53MBCK	GaN	466	water clear	50	110	16°	
W53PBC/E	InGaN	470	water clear	650	1200	30°	
W53SRSGW	GaAlAs	640	white diffused	110	200	50°	
	GaP	568		18	60		



NOTES:

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2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @ 20mA		Viewing Angle	Dimension
				Min.	Typ.		

W937IID	GaAsP/GaP	625	red diffused	7	20	60°	T-1 (3mm) Round
	GaAsP/GaP	625		7	20		
W937GGD	GaP	568	green diffused	4	15	60°	
	GaP	568		4	15		
W937YYD	GaAsP/GaP	588	yellow diffused	4	10	60°	
	GaAsP/GaP	588		4	10		
W937EGW	GaAsP/GaP	625	white diffused	7	20	60°	
	GaP	568		7	16		
W937EYW	GaAsP/GaP	625	white diffused	7	20	60°	
	GaAsP/GaP	588		4	7		
W937GYW	GaP	568	white diffused	7	16	60°	
	GaAsP/GaP	588		4	7		

W115VEGW	GaAsP/GaP	625	white diffused	10	50	60°	T-1 (3mm) Round
	GaP	568		10	30		
W115VEYW	GaAsP/GaP	625	white diffused	10	50	60°	
	GaAsP/GaP	588		7	15		
W115VGYW	GaP	568	white diffused	10	30	60°	
	GaAsP/GaP	588		7	15		

W115WEGW	GaAsP/GaP	625	white diffused	10	40	60°	T-1 (3mm) Round
	GaP	568		10	35		
W115WEYW	GaAsP/GaP	625	white diffused	10	40	60°	
	GaAsP/GaP	588		7	20		
W115WGYW	GaP	568	white diffused	10	35	60°	
	GaAsP/GaP	588		7	20		

W3VEGW	GaAsP/GaP	625	white diffused	10	40	60°	T-1 (3mm) Round
	GaP	568		10	35		
W3VEYW	GaAsP/GaP	625	white diffused	10	40	60°	
	GaAsP/GaP	588		7	15		
W3VGYW	GaP	568	white diffused	10	35	60°	
	GaAsP/GaP	588		7	15		

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01")$ unless otherwise noted.



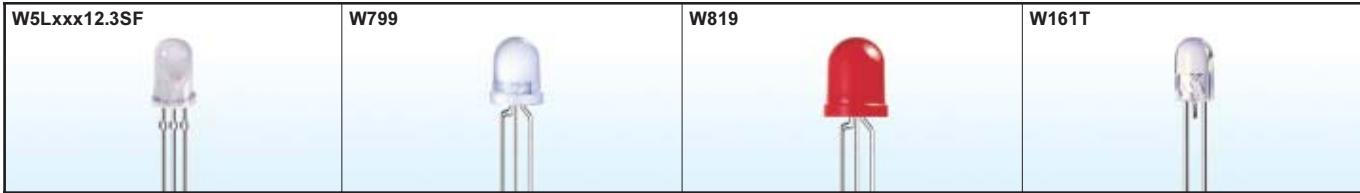
Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @ 20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		

W57IID	GaAsP/GaP	625	red diffused	7	20	60°	T-1 3/4 (5mm) Round
	GaAsP/GaP	625		7	20		
W57GGD	GaP	568	green diffused	4	10	60°	
	GaP	568		4	10		
W57YYD	GaAsP/GaP	588	yellow diffused	4	10	60°	
	GaAsP/GaP	588		4	10		
W57SRSRD	GaAlAs	640	red diffused	70	150	60°	
	GaAlAs	640		70	150		
W57EGW	GaAsP/GaP	625	white diffused	10	30	60°	
	GaP	568		10	20		
W57EYW	GaAsP/GaP	625	white diffused	10	30	60°	
	GaAsP/GaP	588		4	10		
W57GYW	GaP	568	white diffused	10	20	60°	
	GaAsP/GaP	588		4	10		

W59EGW	GaAsP/GaP	625	white diffused	18	60	60°	T-1 3/4 (5mm) Round
	GaP	568		18	50		
W59EGW/CA	GaAsP/GaP	625	white diffused	2.6	5	60°	
	GaP	568		1.6	5		
W59EYW	GaAsP/GaP	625	white diffused	18	60	60°	
	GaAsP/GaP	588		18	40		
W59GYW	GaP	568	white diffused	18	50	60°	
	GaAsP/GaP	588		18	40		
W59SRSGW/CC	GaAlAs	640	white diffused	110	220	60°	
	GaP	568		36	60		
W59SURKMGKW	InGaAlP	635	white diffused	380	800	60°	
	InGaAlP	570		50	170		
W59EGC	GaAsP/GaP	625	water clear	70	150	24°	
	GaP	568		70	150		
W59EYC	GaAsP/GaP	625	water clear	70	150	24°	
	GaAsP/GaP	588		18	60		
W59GYC	GaP	568	water clear	70	150	24°	
	GaAsP/GaP	588		18	60		
W59SRSGC/CC	GaAlAs	640	water clear	280	600	24°	
	GaP	568		70	200		
W59SURKSGC	InGaAlP	635	water clear	900	1600	24°	
	GaP	568		70	200		

W154A4SUKPBGKC	InGaAlP	635		480	1000		T-1 3/4 (5mm) Full color
	InGaN	470	water clear	380	600	50°	
	InGaN	525		380	900		
W154A4SUKPBGKW	InGaAlP	635		380	600		
	InGaN	470	white diffused	110	350	60°	
	InGaN	525		280	500		
W154A4SUEPBGVGC	InGaAlP	630		380	600		
	InGaN	470	water clear	180	350	50°	
	InGaN	525		280	500		
W154A4SUEPBGVW	InGaAlP	630		180	400		
	InGaN	470	white diffused	110	300	60°	
	InGaN	525		180	320		

NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @ 20mA		Viewing Angle	Dimension
				Min.	Typ.		

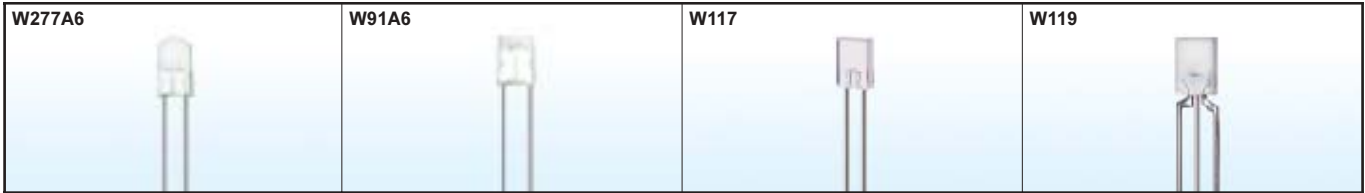
W5LEGW12.3SF	GaAsP/GaP	625	white diffused	18	60	60°	T-1 3/4 (5mm) Round
	GaP	568		18	50		
W5LEYW12.3SF	GaAsP/GaP	625	white diffused	18	60	60°	
	GaAsP/GaP	588		18	40		
W5LGYW12.3SF	GaP	568	white diffused	18	50	60°	
	GaAsP/GaP	588		18	40		

W799EGW	GaAsP/GaP	625	white diffused	36	80	50°	8mm Round
	GaP	568		18	50		
W799SRSGW/CC	GaAlAs	640	white diffused	110	200	50°	
	GaP	568		18	50		
W799SURKMGKW	InGaAlP	635	white diffused	380	600	50°	
	InGaAlP	570		50	130		

W819IID	GaAsP/GaP	625	red diffused	36	80	50°	10mm Round
	GaAsP/GaP	625		36	80		
W819GGD	GaP	568	green diffused	10	40	50°	
	GaP	568		10	40		
W819YYD	GaAsP/GaP	588	yellow diffused	10	30	50°	
	GaAsP/GaP	588		10	30		
W819EGW	GaAsP/GaP	625	white diffused	36	80	50°	
	GaP	568		18	50		
W819SRSGW/CC	GaAlAs	640	white diffused	110	200	50°	
	GaP	568		36	50		
W819SURKMGKW	InGaAlP	635	white diffused	380	750	50°	
	InGaAlP	570		50	130		

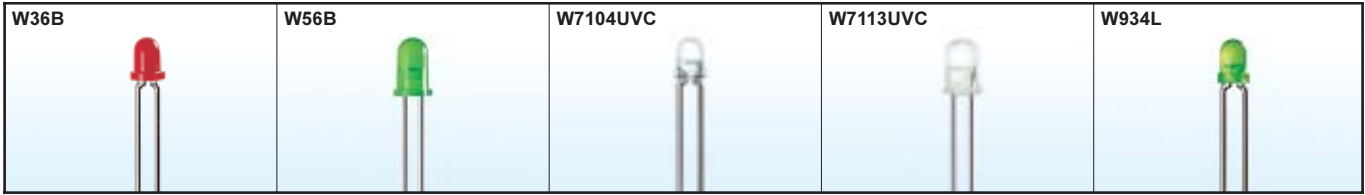
W161TEEC	GaAsP/GaP	625	water clear	110	200	45° (H)	T-1 3/4 (5mm) Oval
	GaAsP/GaP	625		110	200	25° (V)	
W161TYYC	GaAsP/GaP	588	water clear	110	150	45° (H)	
	GaAsP/GaP	588		110	150	25° (V)	
W161TSGSGC	GaP	568	water clear	110	200	45° (H)	
	GaP	568		110	200	25° (V)	
W161TSRSRC	GaAlAs	640	water clear	480	1300	45° (H)	
	GaAlAs	640		480	1300	25° (V)	

NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @ 20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
W277A6GNW	GaP	568	white diffused	4	10	60°	1.75mm x 3.9mm Rectangular
	GaAsP/GaP	610		4	11		
W277A6GYW	GaP	568	white diffused	4	12	60°	
	GaAsP/GaP	588		2.6	6		
W91A6GNW	GaP	568	white diffused	2.6	8	110°	2mm x 3mm Rectangular
	GaAsP/GaP	610		4	10		
W91A6YGW	GaAsP/GaP	588	white diffused	1.6	4	110°	
	GaP	568		4	9		
W117EGW	GaAsP/GaP	625	white diffused	4	10	110°	2mm x 5mm Rectangular
	GaP	568		4	8		
W117EYW	GaAsP/GaP	625	white diffused	4	10	110°	
	GaAsP/GaP	588		2.6	6		
W117GYW	GaP	568	white diffused	4	8	110°	
	GaAsP/GaP	588		2.6	6		
W119EGW	GaAsP/GaP	625	white diffused	7	20	110°	2mm x 5mm Rectangular
	GaP	568		4	12		
W119SRSGWT/CC	GaAlAs	640	white diffused	18	60	110°	
	GaP	568		4	12		
W119SURKMGKWT	InGaAlP	635	white diffused	70	170	110°	
	InGaAlP	570		10	30		

NOTES:
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 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) V=9V		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
W36BHD	GaP	660	red diffused	1	2	60°	T-1 (3mm) Round
W36BID	GaAsP/GaP	625	red diffused	12	20	60°	
W36BSRD/B	GaAlAs	640	red diffused	110	200	60°	
W36BYD	GaAsP/GaP	588	yellow diffused	5	10	60°	
W36BGD	GaP	568	green diffused	5	15	60°	

W56BHD	GaP	660	red diffused	1.8	5	60°	T-1 3/4 (5mm) Round
W56BID	GaAsP/GaP	625	red diffused	18	40	60°	
W56BSRD/B	GaAlAs	640	red diffused	110	200	60°	
W56BYD	GaAsP/GaP	588	yellow diffused	5	20	60°	
W56BGD	GaP	568	green diffused	5	20	60°	

Part No.	Material	λ D (nm)	Lens Type	Φ_e (mW) @ 20 mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
W7104UVC	InGaN	395	water clear	50	90	34°	Ultraviolet

W7113UVC	InGaN	395	water clear	36	160	20°	Ultraviolet
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Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @ 2mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
W934LID	GaAsP/GaP	625	red diffused	0.7	3	60°	T-1 (3mm) Round
W934LSRD	GaAlAs	640	red diffused	8	20	60°	
W934LYD	GaAsP/GaP	588	yellow diffused	0.7	1.5	60°	
W934LGD	GaP	568	green diffused	0.7	2	60°	

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @ 2mA		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
W53LID	GaAsP/GaP	625	red diffused	0.7	5	60°	T-1 3/4 (5mm) Round
W53LSRD	GaAlAs	640	red diffused	8	20	60°	
W53LYD	GaAsP/GaP	588	yellow diffused	0.7	2	60°	
W53LGD	GaP	568	green diffused	0.7	2	60°	

W277A7LID	GaAsP/GaP	625	red diffused	0.4	2	30°	1.75mm x 3.9mm Rectangular
W277A7LYD	GaAsP/GaP	588	yellow diffused	0.2	0.5	30°	
W277A7LGD	GaP	568	green diffused	0.3	0.8	30°	

Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) V=5V *V=12V **V=14V		Viewing Angle 2 θ 1/2	Dimension
				Min.	Typ.		
W934ID5V	GaAsP/GaP	625	red diffused	8	20	60°	T-1 (3mm) Round
W934ID12V	GaAsP/GaP	625	red diffused	*8	*20	60°	
W934ID14V	GaAsP/GaP	625	red diffused	**8	**20	60°	
W934SRD5V	GaAlAs	640	red diffused	70	150	60°	
W934SRD12V	GaAlAs	640	red diffused	*40	*100	60°	
W934SRD14V	GaAlAs	640	red diffused	**28	**90	60°	
W934YD5V	GaAsP/GaP	588	yellow diffused	8	15	60°	
W934YD12V	GaAsP/GaP	588	yellow diffused	*8	*15	60°	
W934YD14V	GaAsP/GaP	588	yellow diffused	**3	**11	60°	
W934GD5V	GaP	568	green diffused	8	20	60°	
W934GD12V	GaP	568	green diffused	*8	*20	60°	
W934GD14V	GaP	568	green diffused	**8	**20	60°	
W934SGD5V	GaP	568	green diffused	8	20	60°	
W934SGD12V	GaP	568	green diffused	*8	*20	60°	
W934SGD14V	GaP	568	green diffused	**8	**20	60°	

W53ID5V	GaAsP/GaP	625	red diffused	12	30	60°	T-1 3/4 (5mm) Round
W53ID12V	GaAsP/GaP	625	red diffused	*12	*30	60°	
W53ID14V	GaAsP/GaP	625	red diffused	**12	**30	60°	
W53SRD5V	GaAlAs	640	red diffused	110	180	60°	
W53SRD12V	GaAlAs	640	red diffused	*110	*180	60°	
W53SRD14V	GaAlAs	640	red diffused	**70	**160	60°	
W53YD5V	GaAsP/GaP	588	yellow diffused	5	20	60°	
W53YD12V	GaAsP/GaP	588	yellow diffused	*5	*20	60°	
W53YD14V	GaAsP/GaP	588	yellow diffused	**5	**16	60°	
W53GD5V	GaP	568	green diffused	8	20	60°	
W53GD12V	GaP	568	green diffused	*8	*20	60°	
W53GD14V	GaP	568	green diffused	**5	**18	60°	
W53SGD5V	GaP	568	green diffused	8	20	60°	
W53SGD12V	GaP	568	green diffused	*8	*20	60°	
W53SGD14V	GaP	568	green diffused	**5	**18	60°	

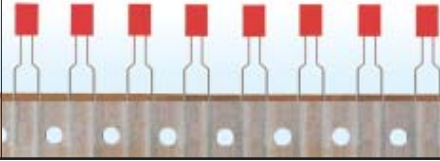
NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.

W59TNR254



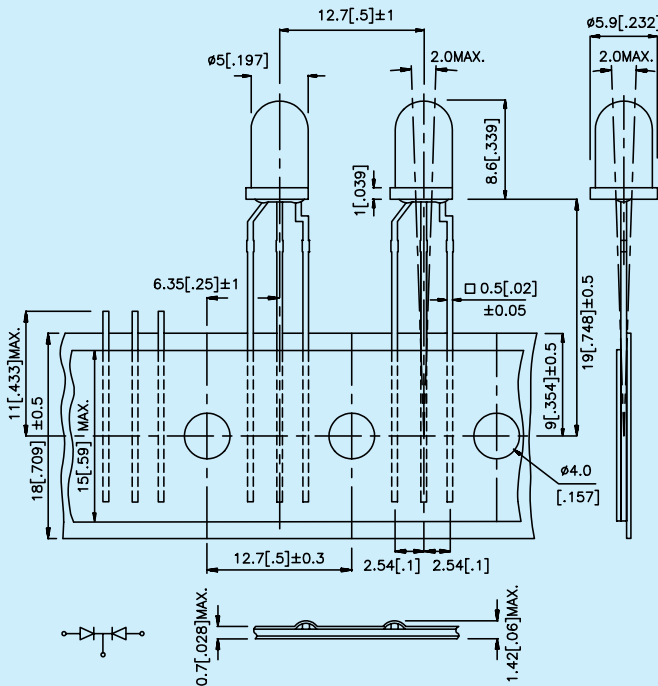
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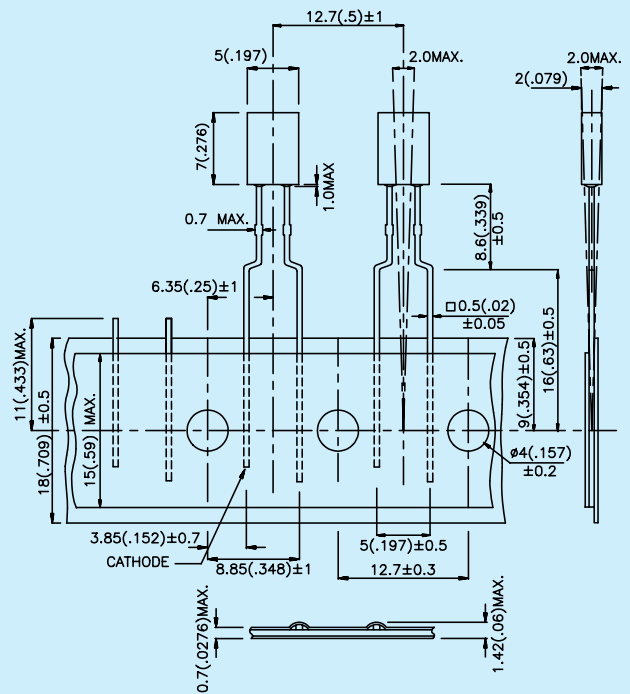
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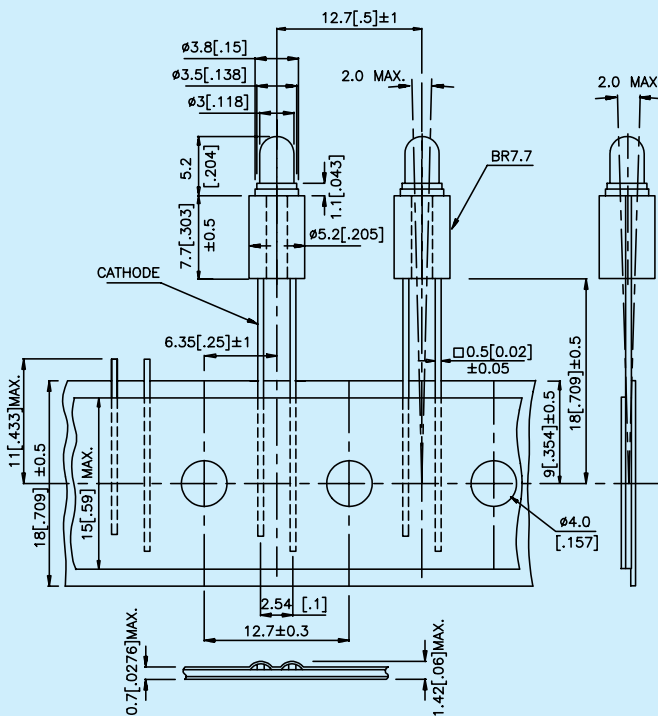
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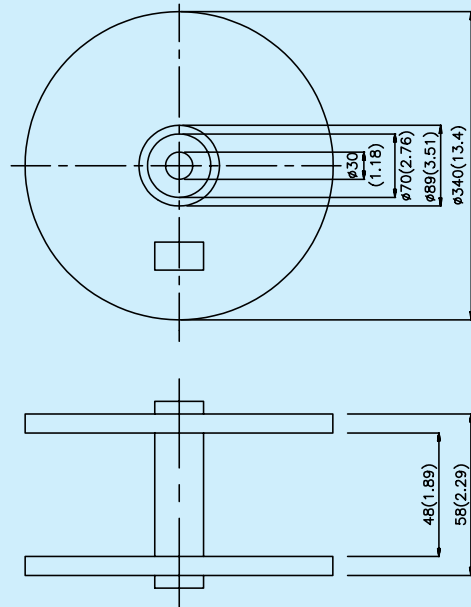
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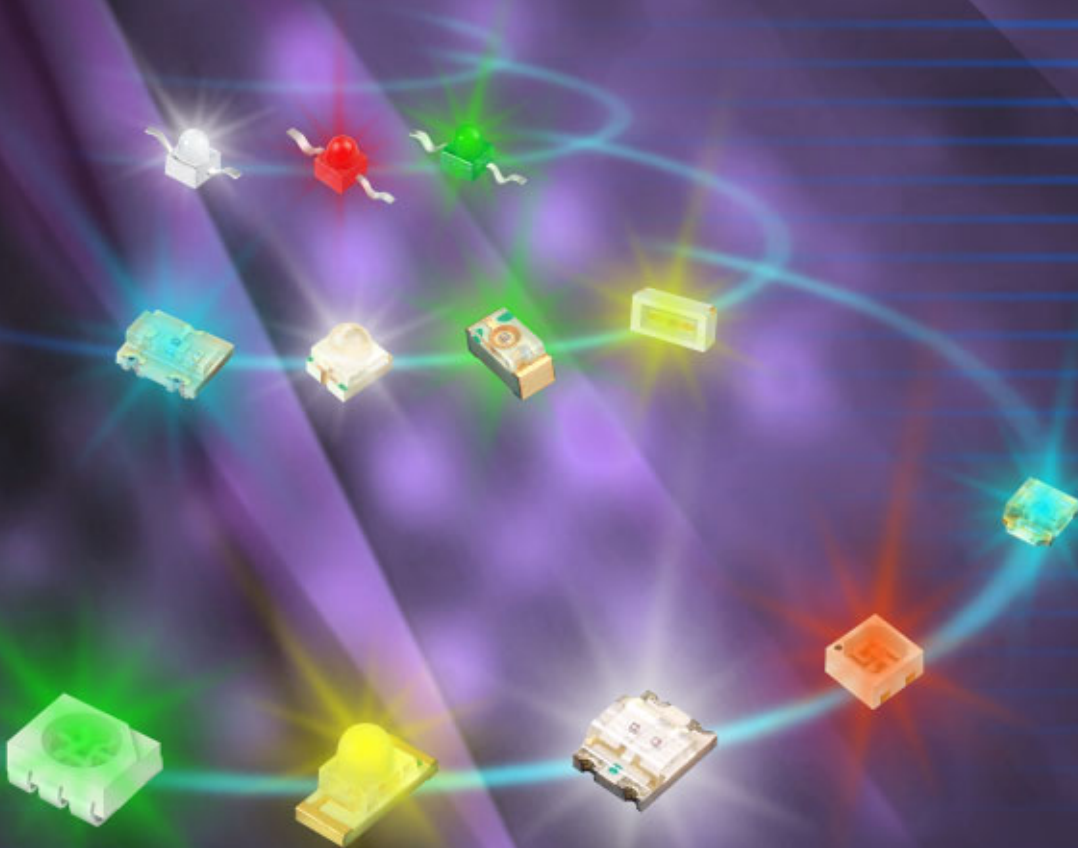


NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

Kingbright Catalog

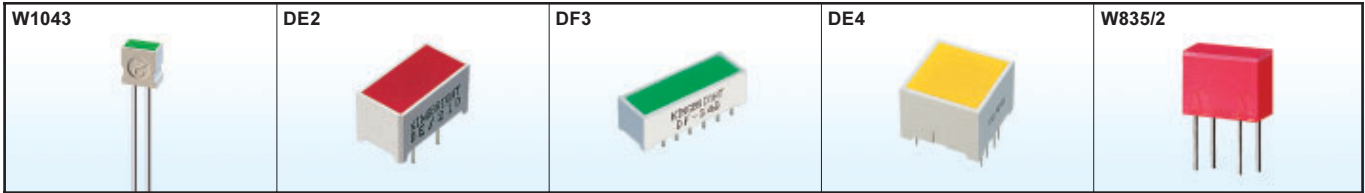
2003-2004



INDEX

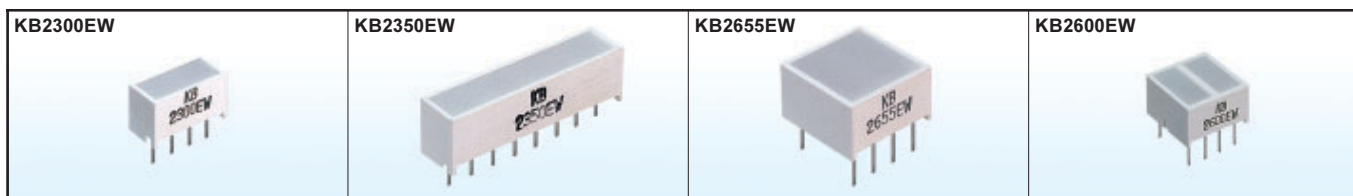
P2-4 LIGHT BARS

P5 BAR GRAPH ARRAYS



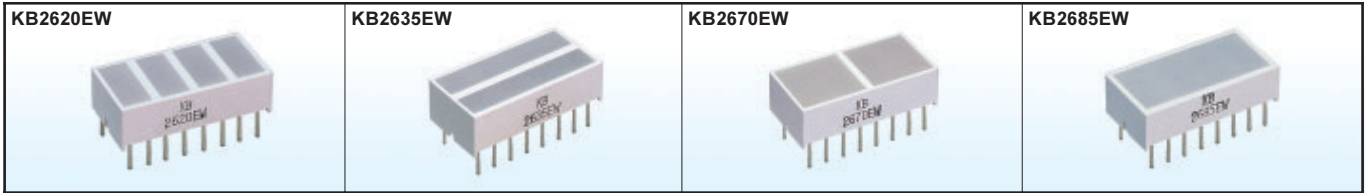
Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @10mA *20mA		Viewing Angle 2θ1/2	Dimension
				Min.	Typ.		
W1043ID	GaAsP/GaP	625	red diffused	1.8	10	100°	6.35mm x 6.15mm
W1043SRD	GaAlAs	640	red diffused	*36	*90	100°	
W1043YD	GaAsP/GaP	588	yellow diffused	1	4	100°	
W1043GD	GaP	568	green diffused	1	4	100°	
W1043SGD	GaP	568	green diffused	*4	*10	100°	
DE2ID	GaAsP/GaP	625	red diffused	9	31	120°	7.5mm x 14mm
DE2SRD	GaAlAs	640	red diffused	*100	*300	120°	
DE2YD	GaAsP/GaP	588	yellow diffused	9	31	120°	
DE2GD	GaP	568	green diffused	9	52	120°	
DE2SGD	GaP	568	green diffused	*40	*80	120°	
DF3ID	GaAsP/GaP	625	red diffused	9	31	120°	6.8mm x 19.9mm
DF3SRD	GaAlAs	640	red diffused	*100	*300	120°	
DF3YD	GaAsP/GaP	588	yellow diffused	9	31	120°	
DF3GD	GaP	568	green diffused	9	52	120°	
DF3SGD	GaP	568	green diffused	*60	*100	120°	
DE4ID	GaAsP/GaP	625	red diffused	9	31	120°	15mm x 15mm
DE4SRD	GaAlAs	640	red diffused	*100	*300	120°	
DE4YD	GaAsP/GaP	588	yellow diffused	9	31	120°	
DE4GD	GaP	568	green diffused	9	52	120°	
DE4SGD	GaP	568	green diffused	*40	*80	120°	
W835/2IDT	GaAsP/GaP	625	red diffused	5	10	120°	5mm x 10mm
W835/2SRDT	GaAlAs	640	red diffused	*18	*60	120°	
W835/2YDT	GaAsP/GaP	588	yellow diffused	5	10	120°	
W835/2GDT	GaP	568	green diffused	5	10	120°	

NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



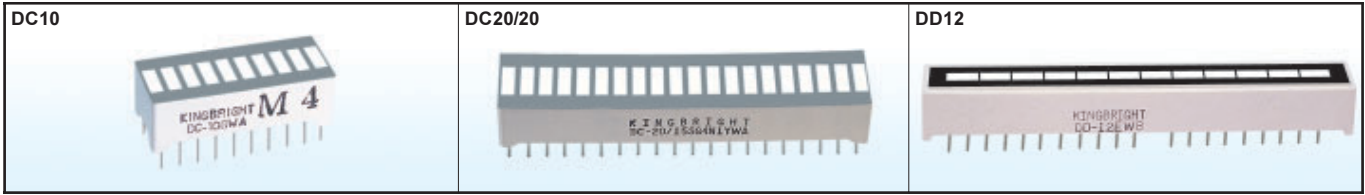
Part No.	Emitting Color + Material	λ D (nm)	Lens Type	Iv (mcd) @ 20mA		Dimension
				Min.	Typ.	
KB2300EW	Hi.Eff.Red GaAsP/GaP	625	white diffused	8	40	8.89mm x 3.81mm Size of Light Emitting Areas
KB-A100SRW	Super Bright Red GaAlAs	640	white diffused	40	80	
KB2400YW	Yellow GaAsP/GaP	588	white diffused	8	40	
KB2500SGD	Super Bright Green GaP	568	green diffused	12	40	
KB2350EW	Hi.Eff.Red GaAsP/GaP	625	white diffused	12	50	19.05mm x 3.81mm Size of Light Emitting Areas
KB-B100SRW	Super Bright Red GaAlAs	640	white diffused	80	200	
KB2450YW	Yellow GaAsP/GaP	588	white diffused	12	50	
KB2550SGD	Super Bright Green GaP	568	green diffused	20	70	
KB2655EW	Hi.Eff.Red GaAsP/GaP	625	white diffused	20	60	8.89mm x 8.89mm Size of Light Emitting Areas
KB-C100SRW	Super Bright Red GaAlAs	640	white diffused	80	200	
KB2755YW	Yellow GaAsP/GaP	588	white diffused	12	50	
KB2855SGD	Super Bright Green GaP	568	green diffused	20	80	
KB2600EW	Hi.Eff.Red GaAsP/GaP	625	white diffused	12	50	8.89mm x 3.81mm Size of Light Emitting Areas
KB-D100SRW	Super Bright Red GaAlAs	640	white diffused	50	100	
KB2700YW	Yellow GaAsP/GaP	588	white diffused	8	40	
KB2800SGD	Super Bright Green GaP	568	green diffused	20	50	

NOTES:
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 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.	Emitting Color + Material	λ D (nm)	Lens Type	Iv (mcd) @ 20mA		Dimension
				Min.	Typ.	
KB2620EW	Hi.Eff.Red GaAsP/GaP	625	white diffused	12	50	8.89mm x 3.81mm Size of Light Emitting Areas
KB-E100SRW	Super Bright Red GaAlAs	640	white diffused	50	90	
KB2720YW	Yellow GaAsP/GaP	588	white diffused	8	40	
KB2820SGD	Super Bright Green GaP	568	green diffused	12	40	
KB2635EW	Hi.Eff.Red GaAsP/GaP	625	white diffused	20	60	3.81mm x 19.05mm Size of Light Emitting Areas
KB-F100SRW	Super Bright Red GaAlAs	640	white diffused	50	200	
KB2735YW	Yellow GaAsP/GaP	588	white diffused	12	40	
KB2835SGD	Super Bright Green GaP	568	green diffused	20	100	
KB2670EW	Hi.Eff.Red GaAsP/GaP	625	white diffused	20	50	8.89mm x 8.89mm Size of Light Emitting Areas
KB-G100SRW	Super Bright Red GaAlAs	640	white diffused	60	200	
KB2770YW	Yellow GaAsP/GaP	588	white diffused	12	50	
KB2870SGD	Super Bright Green GaP	568	green diffused	20	70	
KB2685EW	Hi.Eff.Red GaAsP/GaP	625	white diffused	20	60	8.89mm x 19.05mm Size of Light Emitting Areas
KB-H100SRW	Super Bright Red GaAlAs	640	white diffused	50	200	
KB2785YW	Yellow GaAsP/GaP	588	white diffused	12	50	
KB2885SGD	Super Bright Green GaP	568	green diffused	60	200	

NOTES:
 1. All dimensions are in millimeters(inches).
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Part No.	Emitting Color + λ D (nm) + Material	Iv (ucd) @10mA		Description	Dimension
		Min.	Typ.		
DC10EWA	Hi.Eff.Red 625 GaAsP/GaP	2200	9000	10 Segments Bargraph-Display Gray Face White Segment	
DC10SRWA	Super Bright Red 640 GaAlAs	9000	31000		
DC10YWA	Yellow 588 GaAsP/GaP	2200	9000		
DC10GWA	Green 568 GaP	3000	9500		
DC7G3HWA	Green 568 GaP Bright Red 660 GaP	3000 900	9500 2200		
DC20/20EWA	Hi.Eff.Red 625 GaAsP/GaP	2200	9000	20 Segments Bargraph-Display Gray Face White Segment	
DC20/20SRWA	Super Bright Red 640 GaAlAs	9000	31000		
DC20/20YWA	Yellow 588 GaAsP/GaP	3600	9000		
DC20/20GWA	Green 568 GaP	3600	9000		
DD12HWP	Bright Red 660 GaP	900	1400	12 Segments Bargraph-Display Black Face White Segment	
DD12YWP	Yellow 588 GaAsP/GaP	1400	3600		
DD12GWP	Green 568 GaP	2200	5600		

NOTES:
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Kingbright Catalog

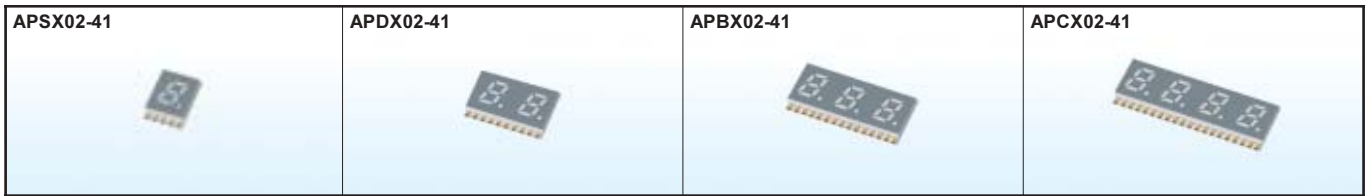
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INDEX

P2-5 SMD NUMERIC DISPLAYS

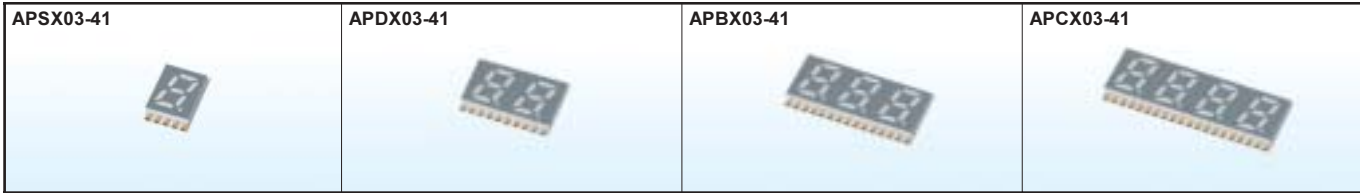
P6-12 PACKAGE DIMENSION



Part No.		Package Description	Material	λ D (nm)	Iv (ucd) @10mA *20mA		Package Dimension
Common Anode	Common Cathode				Min.	Typ.	
APSA02-41EWA APDA02-41EWA APBA02-41EWA APCA02-41EWA	APSC02-41EWA APDC02-41EWA APBC02-41EWA APCC02-41EWA	0.2 inch (5.08mm) Gray Face White Segment	GaAsP/GaP	625	1200	5800	1,2,3,4
APSA02-41SURKWA APDA02-41SURKWA APBA02-41SURKWA APCA02-41SURKWA	APSC02-41SURKWA APDC02-41SURKWA APBC02-41SURKWA APCC02-41SURKWA		InGaAlP	635	8000	30400	
APSA02-41SEKWA APDA02-41SEKWA APBA02-41SEKWA APCA02-41SEKWA	APSC02-41SEKWA APDC02-41SEKWA APBC02-41SEKWA APCC02-41SEKWA		InGaAlP	601	8000	37200	
APSA02-41YWA APDA02-41YWA APBA02-41YWA APCA02-41YWA	APSC02-41YWA APDC02-41YWA APBC02-41YWA APCC02-41YWA		GaAsP/GaP	588	480	1900	
APSA02-41SYKWA APDA02-41SYKWA APBA02-41SYKWA APCA02-41SYKWA	APSC02-41SYKWA APDC02-41SYKWA APBC02-41SYKWA APCC02-41SYKWA		InGaAlP	590	8000	34000	
APSA02-41SGWA APDA02-41SGWA APBA02-41SGWA APCA02-41SGWA	APSC02-41SGWA APDC02-41SGWA APBC02-41SGWA APCC02-41SGWA		GaP	568	1900	10000	
APSA02-41VGKWA APDA02-41VGKWA APBA02-41VGKWA APCA02-41VGKWA	APSC02-41VGKWA APDC02-41VGKWA APBC02-41VGKWA APCC02-41VGKWA		InGaN	525	12000	55500	
APSA02-41CGKWA APDA02-41CGKWA APBA02-41CGKWA APCA02-41CGKWA	APSC02-41CGKWA APDC02-41CGKWA APBC02-41CGKWA APCC02-41CGKWA		InGaAlP	570	4700	26000	
APSA02-41MBWA APDA02-41MBWA APBA02-41MBWA APCA02-41MBWA	APSC02-41MBWA APDC02-41MBWA APBC02-41MBWA APCC02-41MBWA		GaN	466	800	3700	
APSA02-41PBWA APDA02-41PBWA APBA02-41PBWA APCA02-41PBWA	APSC02-41PBWA APDC02-41PBWA APBC02-41PBWA APCC02-41PBWA		InGaN	470	1900	10800	
APSA02-41MWFA APDA02-41MWFA APBA02-41MWFA APCA02-41MWFA	APSC02-41MWFA APDC02-41MWFA APBC02-41MWFA APCC02-41MWFA	0.2 inch (5.08mm) Gray Face Yellow Fluorescent Segment	GaN	X=0.33,Y=0.34	*1600	*8700	
APSA02-41PWFA APDA02-41PWFA APBA02-41PWFA APCA02-41PWFA	APSC02-41PWFA APDC02-41PWFA APBC02-41PWFA APCC02-41PWFA		InGaN	X=0.33,Y=0.34	*7000	*44600	

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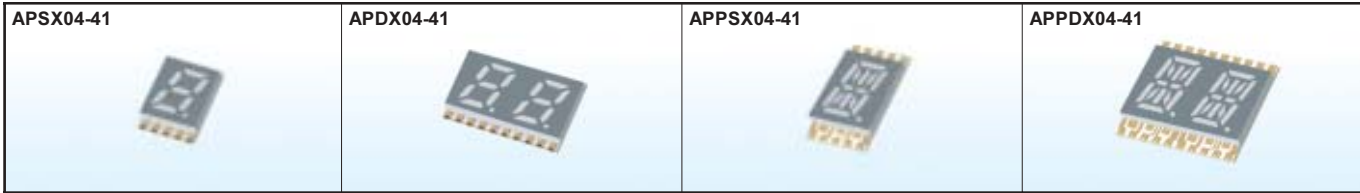
1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.		Package Description	Material	λ D (nm)	Iv (ucd) @10mA *20mA		Package Dimension
Common Anode	Common Cathode				Min.	Typ.	
APSA03-41EWA APDA03-41EWA APBA03-41EWA APCA03-41EWA	APSC03-41EWA APDC03-41EWA APBC03-41EWA APCC03-41EWA	0.3 inch (7.62mm) Gray Face White Segment	GaAsP/GaP	625	1200	4210	5,6,7,8
APSA03-41SRWA APDA03-41SRWA APBA03-41SRWA APCA03-41SRWA	APSC03-41SRWA APDC03-41SRWA APBC03-41SRWA APCC03-41SRWA		GaAlAs	640	1900	7657	
APSA03-41SURKWA APDA03-41SURKWA APBA03-41SURKWA APCA03-41SURKWA	APSC03-41SURKWA APDC03-41SURKWA APBC03-41SURKWA APCC03-41SURKWA		InGaAlP	635	3000	14800	
APSA03-41SEKWA APDA03-41SEKWA APBA03-41SEKWA APCA03-41SEKWA	APSC03-41SEKWA APDC03-41SEKWA APBC03-41SEKWA APCC03-41SEKWA		InGaAlP	601	12000	54400	
APSA03-41YWA APDA03-41YWA APBA03-41YWA APCA03-41YWA	APSC03-41YWA APDC03-41YWA APBC03-41YWA APCC03-41YWA		GaAsP/GaP	588	480	2290	
APSA03-41SYKWA APDA03-41SYKWA APBA03-41SYKWA APCA03-41SYKWA	APSC03-41SYKWA APDC03-41SYKWA APBC03-41SYKWA APCC03-41SYKWA		InGaAlP	590	8000	35400	
APSA03-41SGWA APDA03-41SGWA APBA03-41SGWA APCA03-41SGWA	APSC03-41SGWA APDC03-41SGWA APBC03-41SGWA APCC03-41SGWA		GaP	568	1200	5600	
APSA03-41VGKWA APDA03-41VGKWA APBA03-41VGKWA APCA03-41VGKWA	APSC03-41VGKWA APDC03-41VGKWA APBC03-41VGKWA APCC03-41VGKWA		InGaN	525	12000	45200	
APSA03-41CGKWA APDA03-41CGKWA APBA03-41CGKWA APCA03-41CGKWA	APSC03-41CGKWA APDC03-41CGKWA APBC03-41CGKWA APCC03-41CGKWA		InGaAlP	570	1900	11000	
APSA03-41MBWA APDA03-41MBWA APBA03-41MBWA APCA03-41MBWA	APSC03-41MBWA APDC03-41MBWA APBC03-41MBWA APCC03-41MBWA		GaN	466	1200	5000	
APSA03-41PBWA APDA03-41PBWA APBA03-41PBWA APCA03-41PBWA	APSC03-41PBWA APDC03-41PBWA APBC03-41PBWA APCC03-41PBWA	InGaN	470	1900	7400		
APSA03-41MWFA APDA03-41MWFA APBA03-41MWFA APCA03-41MWFA	APSC03-41MWFA APDC03-41MWFA APBC03-41MWFA APCC03-41MWFA	0.3 inch (7.62mm) Gray Face Yellow Fluorescent Segment	GaN	X=0.33,Y=0.34	*2600	*13500	
APSA03-41PWFA APDA03-41PWFA APBA03-41PWFA APCA03-41PWFA	APSC03-41PWFA APDC03-41PWFA APBC03-41PWFA APCC03-41PWFA		InGaN	X=0.33,Y=0.34	*36000	*94000	

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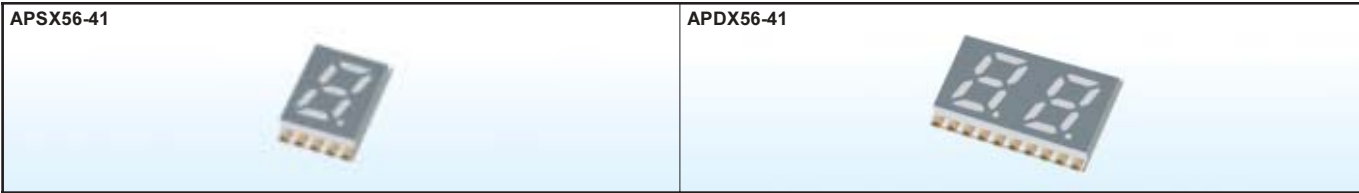
1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



Part No.		Package Description	Material	λ D (nm)	Iv (ucd) @10mA *20mA		Package Dimension
Common Anode	Common Cathode				Min.	Typ.	
APSA04-41EWA APDA04-41EWA	APSC04-41EWA APDC04-41EWA	0.4 inch (10.16mm) Gray Face White Segment	GaAsP/GaP	625	1200	5000	9,10
APSA04-41SRWA APDA04-41SRWA	APSC04-41SRWA APDC04-41SRWA		GaAlAs	640	8000	27500	
APSA04-41SURKWA APDA04-41SURKWA	APSC04-41SURKWA APDC04-41SURKWA		InGaAlP	635	8000	26000	
APSA04-41SEKWA APDA04-41SEKWA	APSC04-41SEKWA APDC04-41SEKWA		InGaAlP	601	12000	41200	
APSA04-41YWA APDA04-41YWA	APSC04-41YWA APDC04-41YWA		GaAsP/GaP	588	480	2500	
APSA04-41SYKWA APDA04-41SYKWA	APSC04-41SYKWA APDC04-41SYKWA		InGaAlP	590	4700	22000	
APSA04-41SGWA APDA04-41SGWA	APSC04-41SGWA APDC04-41SGWA		GaP	568	1900	7000	
APSA04-41VGKWA APDA04-41VGKWA	APSC04-41VGKWA APDC04-41VGKWA		InGaN	525	12000	47000	
APSA04-41CGKWA APDA04-41CGKWA	APSC04-41CGKWA APDC04-41CGKWA		InGaAlP	570	4700	17400	
APSA04-41MBWA APDA04-41MBWA	APSC04-41MBWA APDC04-41MBWA		GaN	466	800	3600	
APSA04-41PBWA APDA04-41PBWA	APSC04-41PBWA APDC04-41PBWA		InGaN	470	3000	12200	
APSA04-41MWFA APDA04-41MWFA	APSC04-41MWFA APDC04-41MWFA		0.4 inch (10.16mm) Gray Face Yellow Fluorescent Segment	GaN	X=0.33,Y=0.34	*4000	
APSA04-41PWFA APDA04-41PWFA	APSC04-41PWFA APDC04-41PWFA	InGaN	X=0.33,Y=0.34	*18000	*78000		
APPSA04-41EWA APPDA04-41EWA	APPSC04-41EWA APPDC04-41EWA	0.4 inch (10.16mm) Gray Face White Segment	GaAsP/GaP	625	800	3200	
APPSA04-41SRWA APPDA04-41SRWA	APPSC04-41SRWA APPDC04-41SRWA		GaAlAs	640	4700	16200	
APPSA0441SURKWA APPDA0441SURKWA	APPSC0441SURKWA APPDC0441SURKWA		InGaAlP	635	4700	22800	
APPSA04-41SEKWA APPDA04-41SEKWA	APPSC04-41SEKWA APPDC04-41SEKWA		InGaAlP	601	1900	7800	
APPSA04-41YWA APPDA04-41YWA	APPSC04-41YWA APPDC04-41YWA		GaAsP/GaP	588	800	3400	
APPSA04-41SYKWA APPDA04-41SYKWA	APPSC04-41SYKWA APPDC04-41SYKWA		InGaAlP	590	8000	24700	
APPSA04-41SGWA APPDA04-41SGWA	APPSC04-41SGWA APPDC04-41SGWA		GaP	568	1900	7500	
APPSA04-41VGKWA APPDA04-41VGKWA	APPSC04-41VGKWA APPDC04-41VGKWA		InGaN	525	8000	38500	
APPSA04-41CGKWA APPDA04-41CGKWA	APPSC04-41CGKWA APPDC04-41CGKWA		InGaAlP	570	3000	11200	
APPSA04-41MBWA APPDA04-41MBWA	APPSC04-41MBWA APPDC04-41MBWA		GaN	466	800	3800	
APPSA04-41PBWA APPDA04-41PBWA	APPSC04-41PBWA APPDC04-41PBWA		InGaN	470	1900	8300	
APPSA04-41MWFA APPDA04-41MWFA	APPSC04-41MWFA APPDC04-41MWFA		0.4 inch (10.16mm) Gray Face Yellow Fluorescent Segment	GaN	X=0.33,Y=0.34	*2600	*11400
APPSA04-41PWFA APPDA04-41PWFA	APPSC04-41PWFA APPDC04-41PWFA	InGaN	X=0.33,Y=0.34	*18000	*78600		

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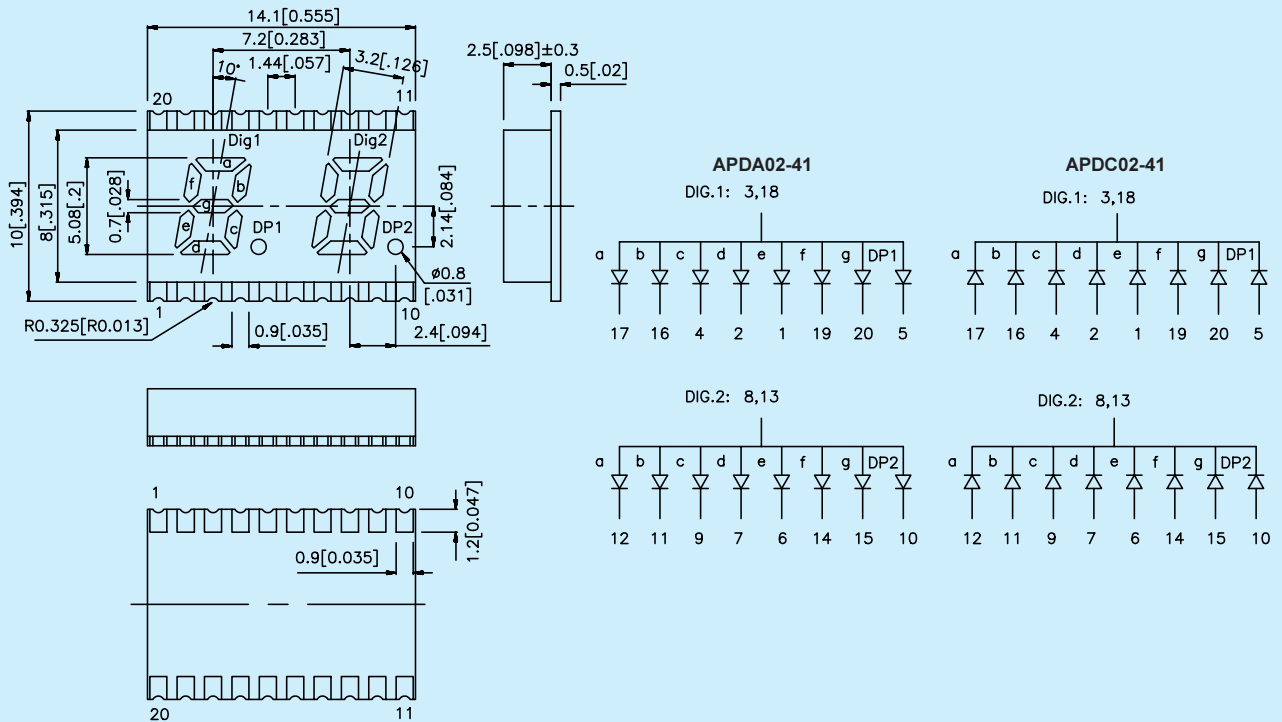
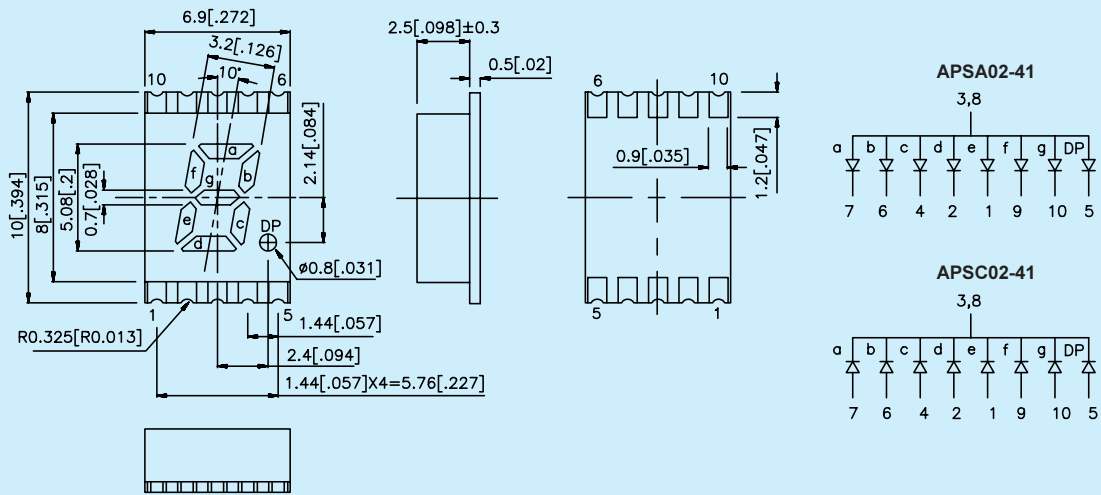
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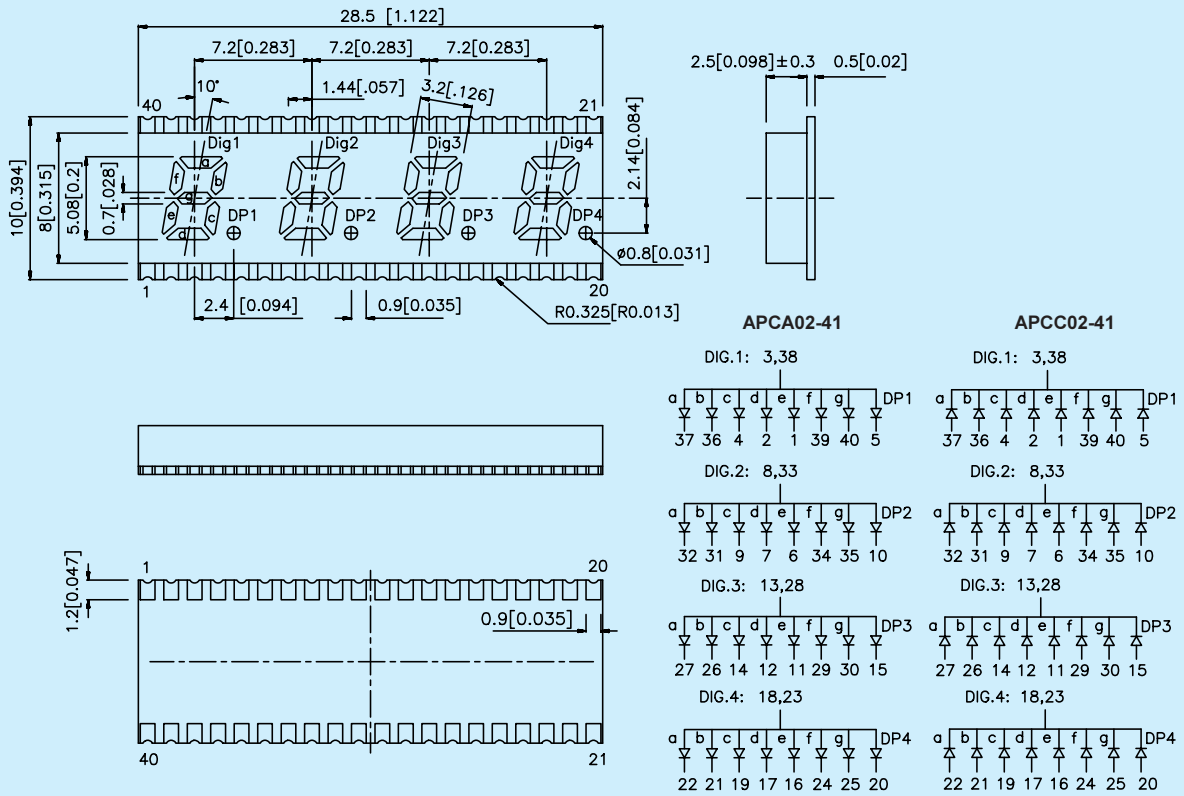
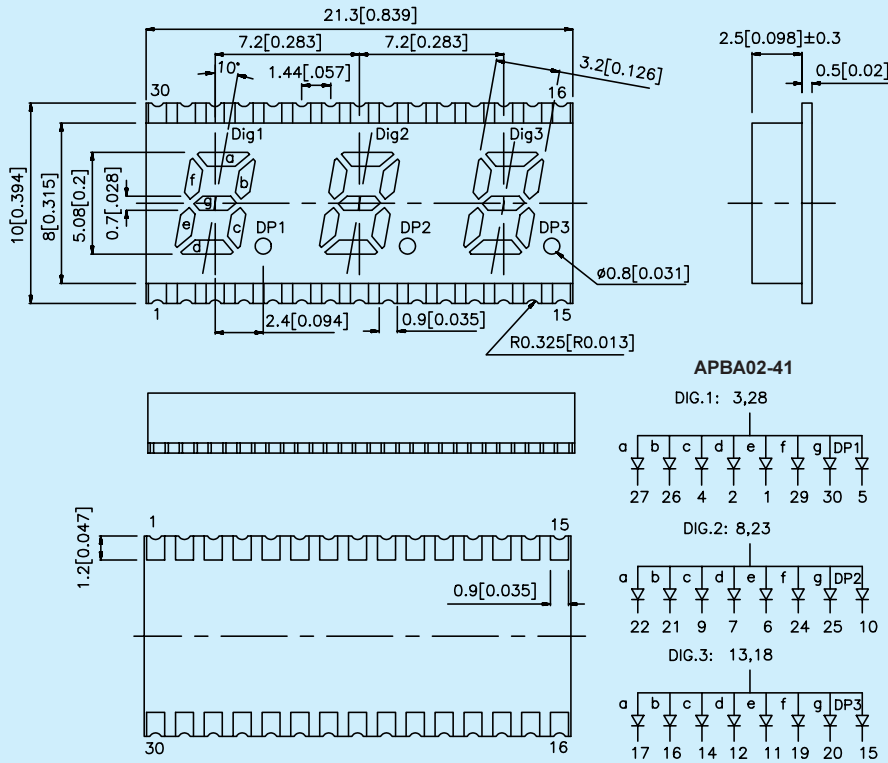
Part No.		Package Description	Material	λ D (nm)	Iv (ucd) @10mA *20mA		Package Dimension
Common Anode	Common Cathode				Min.	Typ.	
APSA56-41EWA APDA56-41EWA	APSC56-41EWA APDC56-41EWA	0.56 inch (14.22mm) Gray Face White Segment	GaAsP/GaP	625	1200	7400	13,14
APSA56-41SRWA APDA56-41SRWA	APSC56-41SRWA APDC56-41SRWA		GaAlAs	640	3000	15500	
APSA56-41SURKWA APDA56-41SURKWA	APSC56-41SURKWA APDC56-41SURKWA		InGaAIP	635	4700	17700	
APSA56-41SEKWA APDA56-41SEKWA	APSC56-41SEKWA APDC56-41SEKWA		InGaAIP	601	12000	40100	
APSA56-41YWA APDA56-41YWA	APSC56-41YWA APDC56-41YWA		GaAsP/GaP	588	1200	5000	
APSA56-41SYKWA APDA56-41SYKWA	APSC56-41SYKWA APDC56-41SYKWA		InGaAIP	590	12000	42100	
APSA56-41SGWA APDA56-41SGWA	APSC56-41SGWA APDC56-41SGWA		GaP	568	3000	13200	
APSA56-41VGKWA APDA56-41VGKWA	APSC56-41VGKWA APDC56-41VGKWA		InGaN	525	18000	85400	
APSA56-41CGKWA APDA56-41CGKWA	APSC56-41CGKWA APDC56-41CGKWA		InGaAIP	570	8000	35500	
APSA56-41MBWA APDA56-41MBWA	APSC56-41MBWA APDC56-41MBWA		GaN	466	1200	5200	
APSA56-41PBWA APDA56-41PBWA	APSC56-41PBWA APDC56-41PBWA		InGaN	470	3000	15800	
APSA56-41MWFA APDA56-41MWFA	APSC56-41MWFA APDC56-41MWFA	0.56 inch (14.22mm) Gray Face Yellow Fluorescent Segment	GaN	X=0.33,Y=0.34	*7000	*30600	
APSA56-41PWFA APDA56-41PWFA	APSC56-41PWFA APDC56-41PWFA		InGaN	X=0.33,Y=0.34	*36000	*116600	

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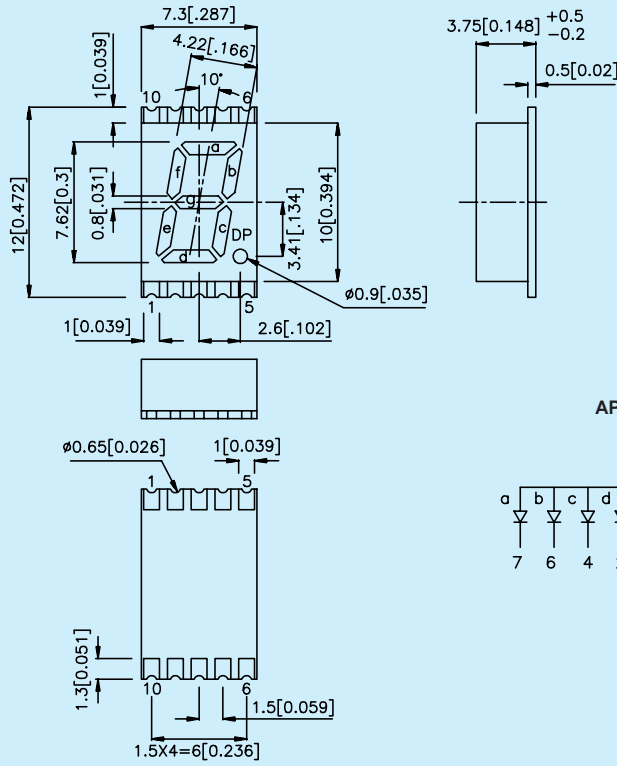
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2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

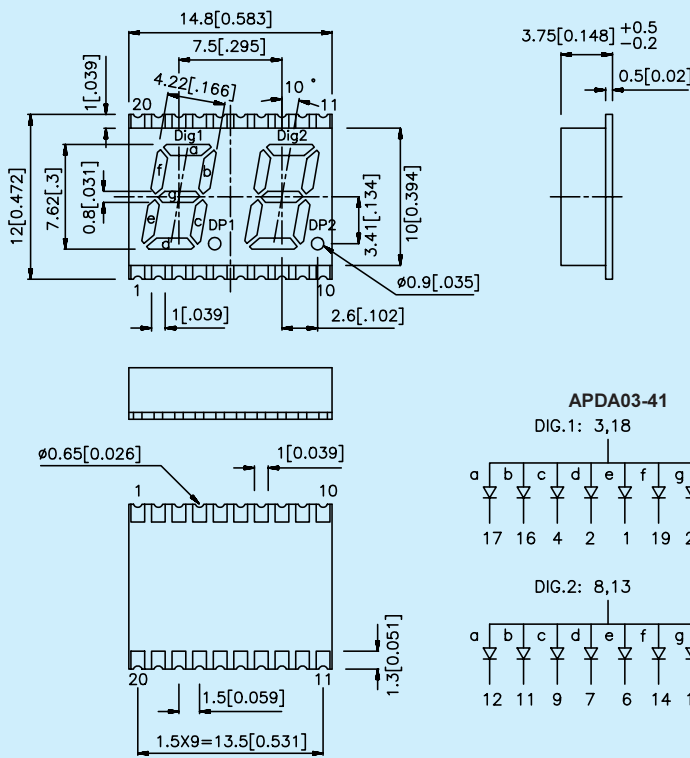
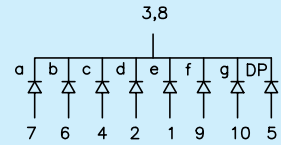
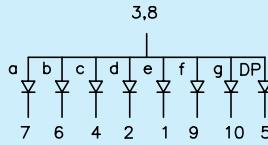


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APSA03-41

APSC03-41

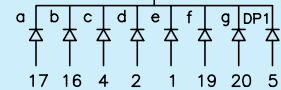
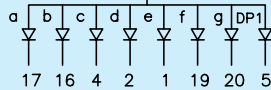


APDA03-41

APDC03-41

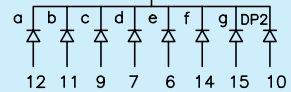
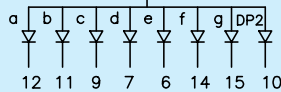
DIG.1: 3,18

DIG.1: 3,18



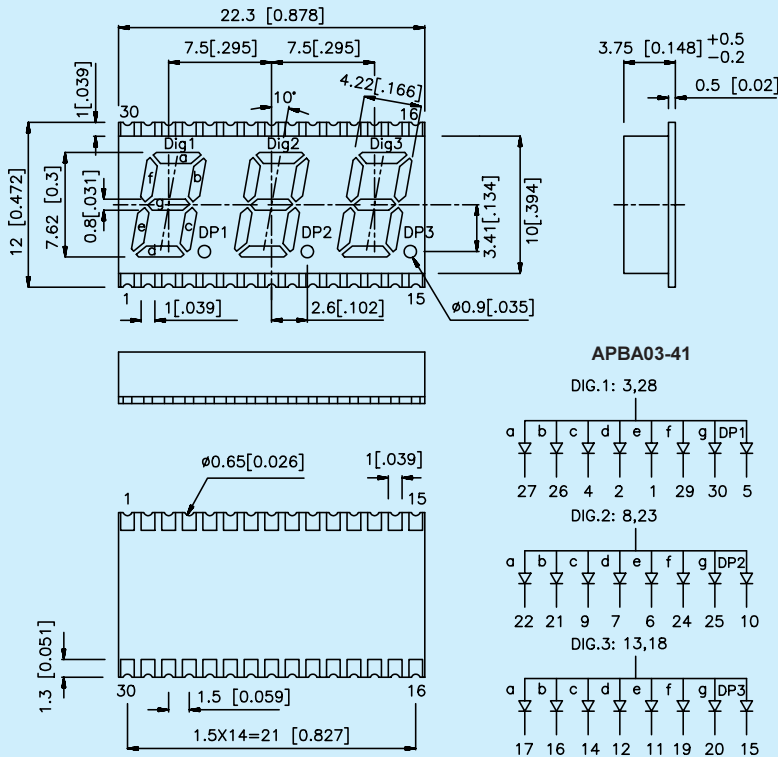
DIG.2: 8,13

DIG.2: 8,13



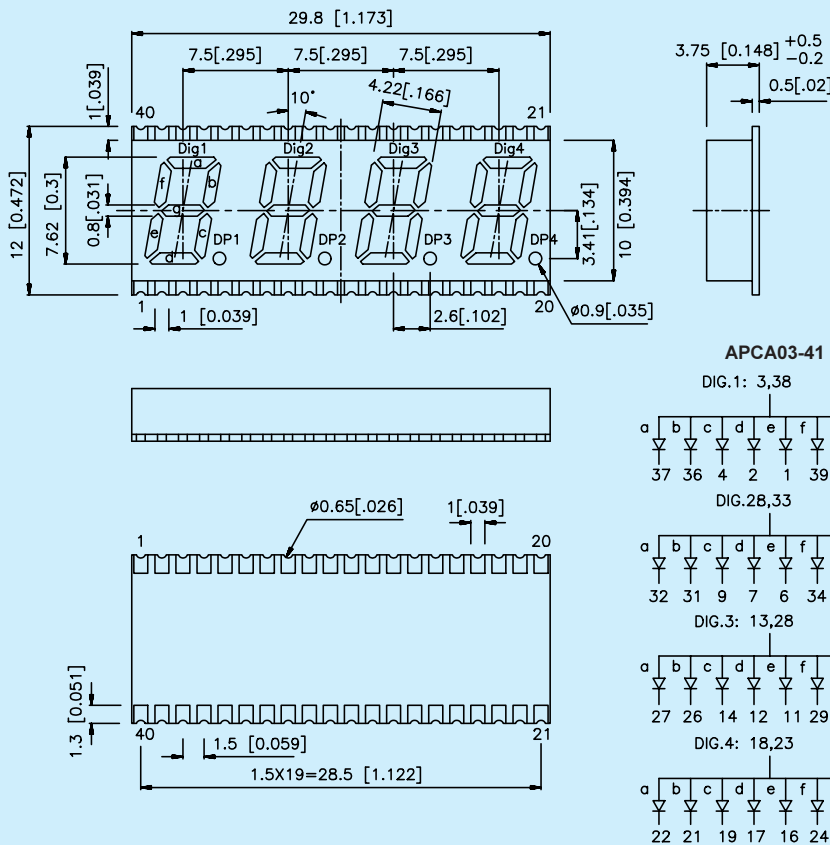
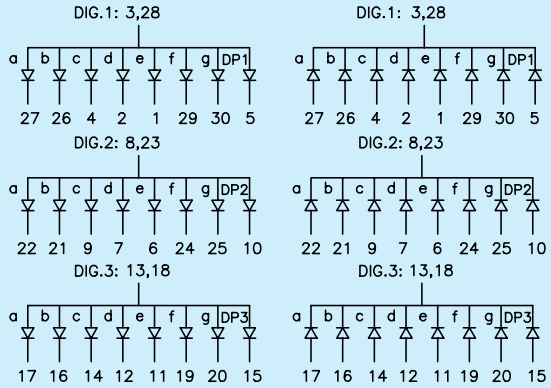
NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



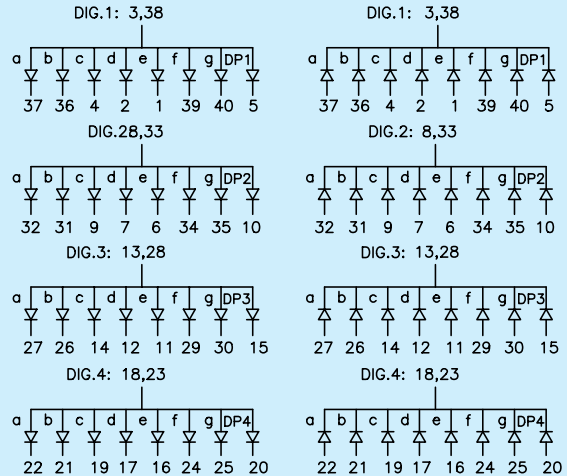
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APBC03-41

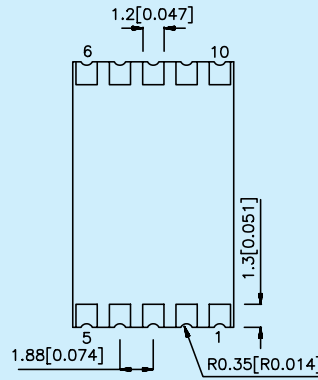
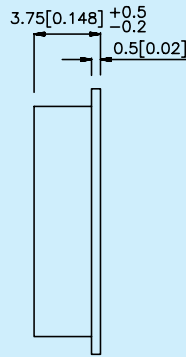
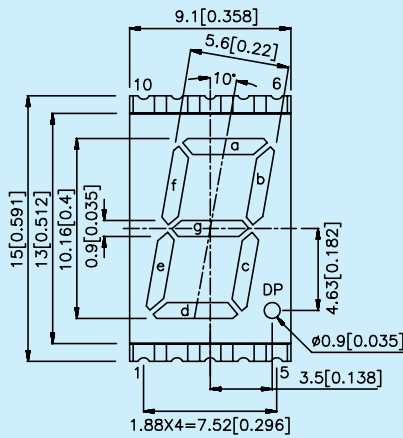


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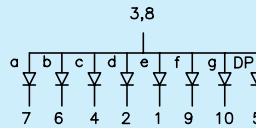
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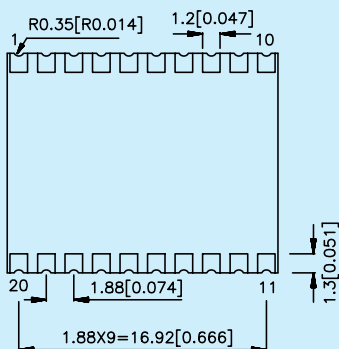
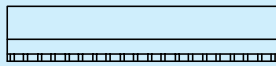
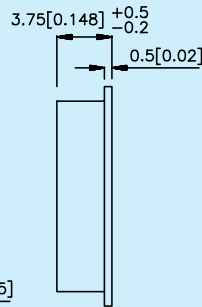
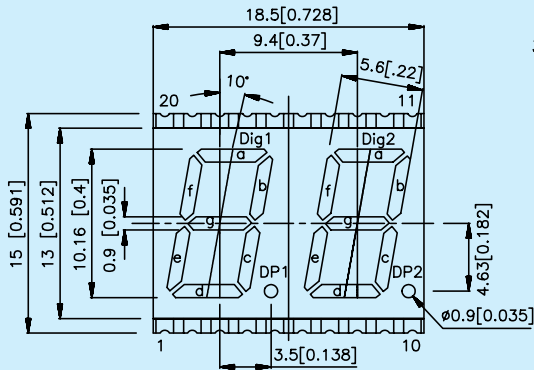
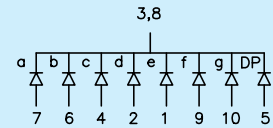
NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



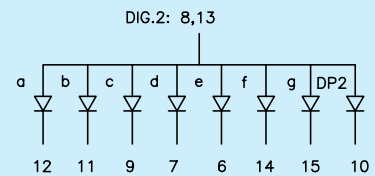
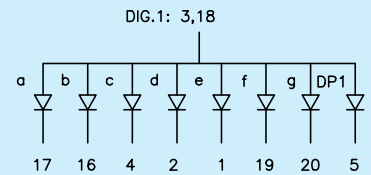
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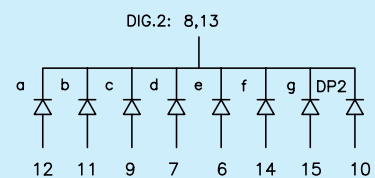
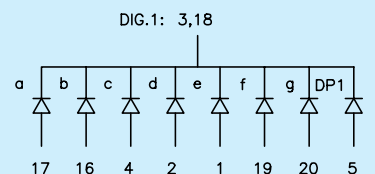
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APDA04-41

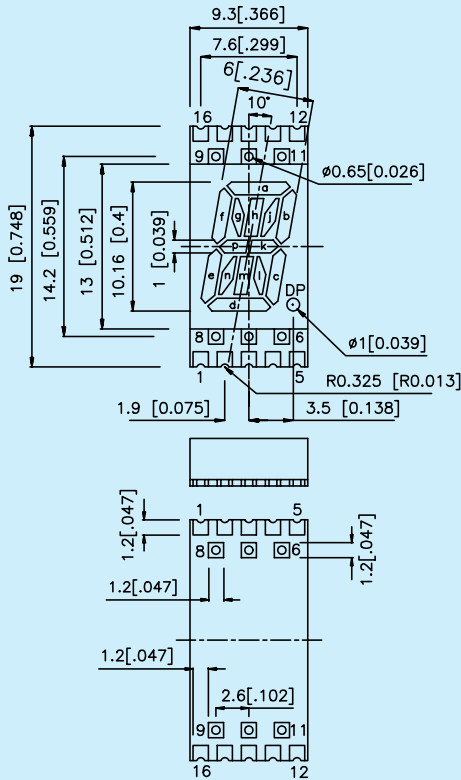


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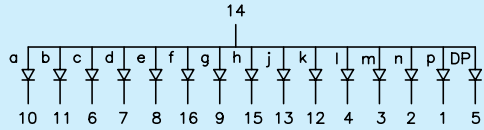


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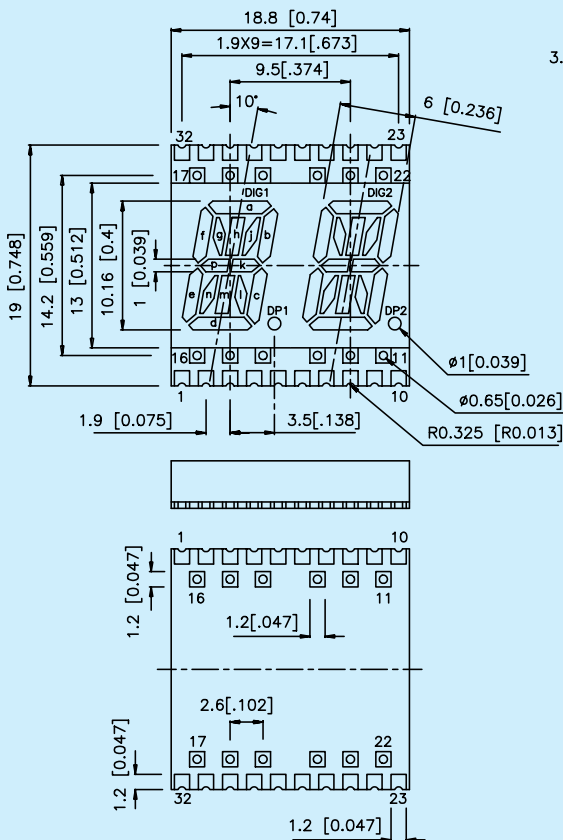
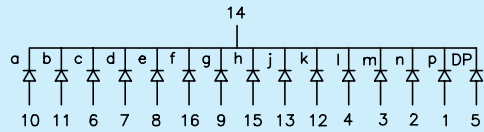
1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



APPSA04-41

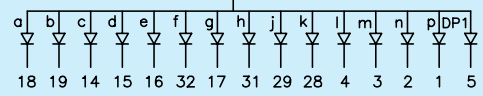


APPSC04-41

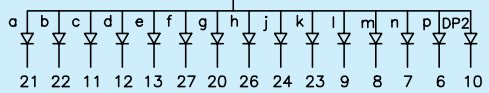


APPDA04-41

Dig.1: 30



Dig.2: 25

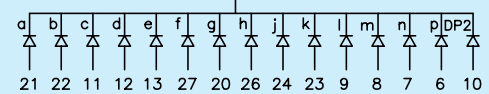


APPDC04-41

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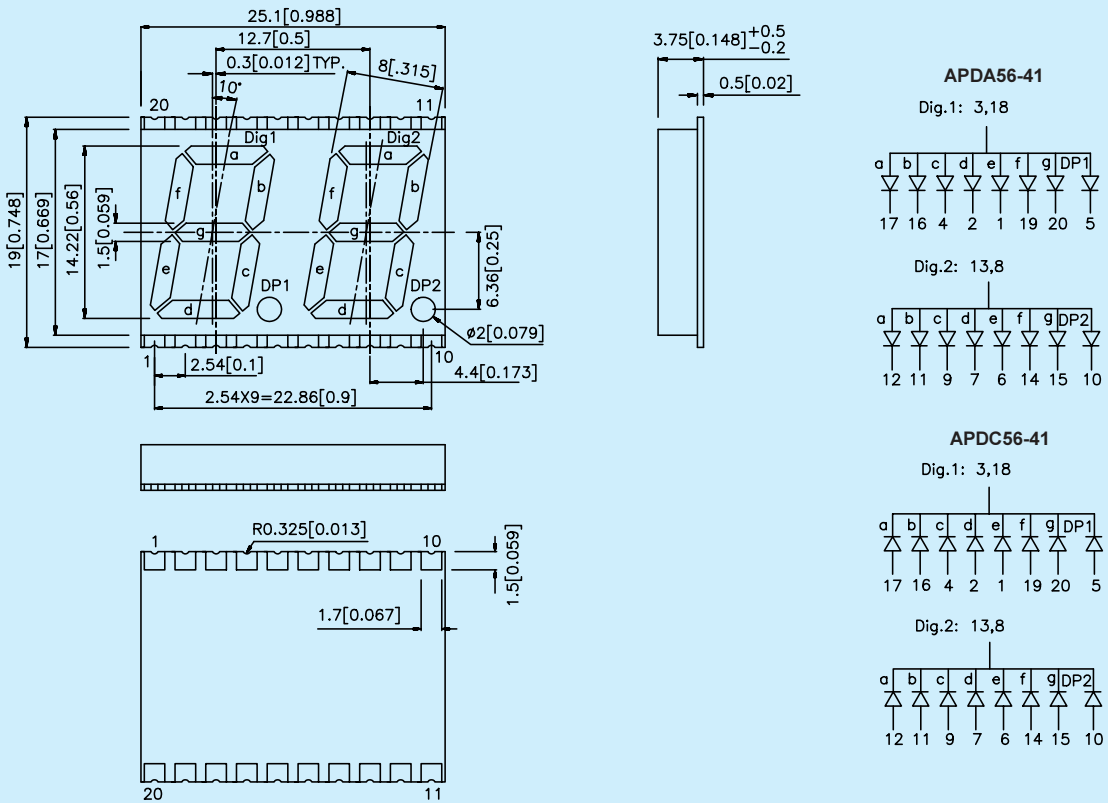
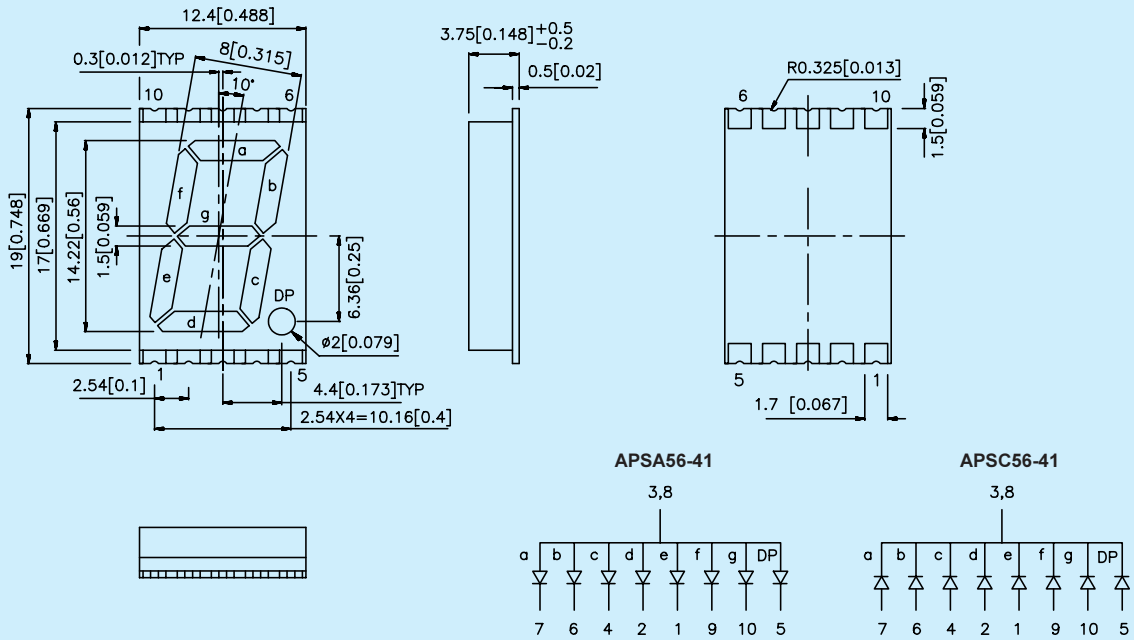


Dig.2: 25



NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25\text{mm} (0.01")$ unless otherwise noted.

Kingbright Catalog

2003-2004



INDEX

P 2-4 SINGLE DIGIT NUMERIC DISPLAYS

P 4-5 DUAL DIGIT NUMERIC DISPLAYS

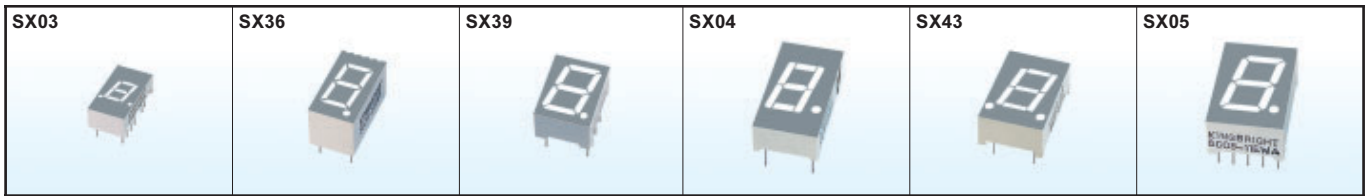
P5 FOUR DIGIT NUMERIC DISPLAYS

P5 THREE DIGIT NUMERIC DISPLAYS

P6 ALPHANUMERIC DISPLAYS

P7-8 DOT MATRIX

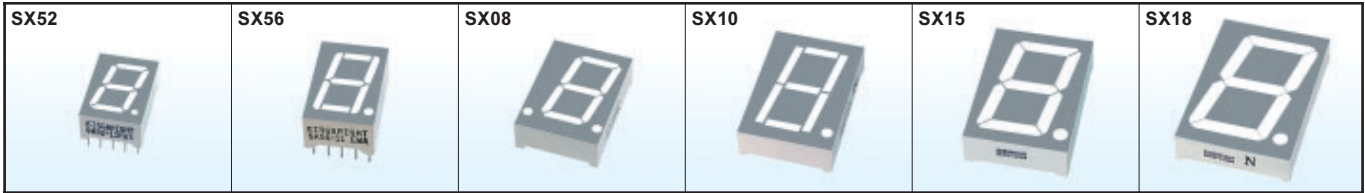
P9-24 PACKAGE DIMENSION



Part No.		Package Description	Material	λ D (nm)	Iv (ucd) @10mA		Package Dimension
Common Anode	Common Cathode				Min.	Typ.	
SA03-11EWA	SC03-12EWA	0.3 inch (7.62mm) Gray Face White Segment	GaAsP/GaP	625	1900	6400	15
SA03-11SRWA	SC03-12SRWA		GaAlAs	640	12000	26000	
SA03-11YWA	SC03-12YWA		GaAsP/GaP	588	1200	3000	
SA03-11GWA	SC03-12GWA		GaP	568	3000	8000	
SA36-11EWA	SC36-11EWA	0.36 inch (9.14mm) Gray Face White Segment	GaAsP/GaP	625	800	1900	16
SA36-11SRWA	SC36-11SRWA		GaAlAs	640	1900	6400	
SA36-11YWA	SC36-11YWA		GaAsP/GaP	588	480	1200	
SA36-11GWA	SC36-11GWA		GaP	568	800	1900	
SA39-11EWA SA39-12EWA	SC39-11EWA SC39-12EWA	0.39 inch (9.9mm) Gray Face White Segment	GaAsP/GaP	625	1200	4100	17
SA39-11SRWA SA39-12SRWA	SC39-11SRWA SC39-12SRWA		GaAlAs	640	4700	16000	
SA39-11YWA SA39-12YWA	SC39-11YWA SC39-12YWA		GaAsP/GaP	588	1200	3000	
SA39-11GWA SA39-12GWA	SC39-11GWA SC39-12GWA		GaP	568	1900	6400	
SA04-11EWA SA04-12EWA	SC04-11EWA SC04-12EWA	0.4 inch (10.16mm) Gray Face White Segment	GaAsP/GaP	625	3000	8000	18
SA04-11SRWA SA04-12SRWA	SC04-11SRWA SC04-12SRWA		GaAlAs	640	8000	18000	
SA04-11YWA SA04-12YWA	SC04-11YWA SC04-12YWA		GaAsP/GaP	588	1900	4700	
SA04-11GWA SA04-12GWA	SC04-11GWA SC04-12GWA		GaP	568	3600	12000	
SA43-11EWA SA43-13EWA	SC43-11EWA SC43-13EWA	0.43 inch (10.92mm) Gray Face White Segment	GaAsP/GaP	625	1900	4700	19
SA43-11SRWA SA43-13SRWA	SC43-11SRWA SC43-13SRWA		GaAlAs	640	8000	18000	
SA43-11YWA SA43-13YWA	SC43-11YWA SC43-13YWA		GaAsP/GaP	588	1200	3000	
SA43-11GWA SA43-13GWA	SC43-11GWA SC43-13GWA		GaP	568	1900	6400	
SA05-11EWA	SC05-11EWA	0.5 inch (12.7mm) Gray Face White Segment	GaAsP/GaP	625	3000	8000	20
SA05-11SRWA	SC05-11SRWA		GaAlAs	640	8000	24000	
SA05-11YWA	SC05-11YWA		GaAsP/GaP	588	1900	4700	
SA05-11GWA	SC05-11GWA		GaP	568	3000	10500	

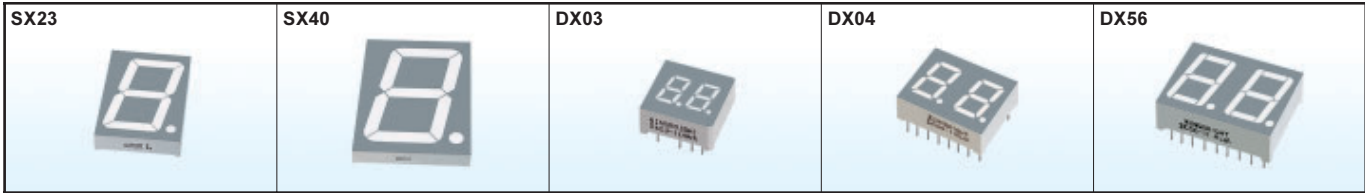
NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



Part No.		Package Description	Material	λ D (nm)	Iv (ucd) @10mA		Package Dimension
Common Anode	Common Cathode				Min.	Typ.	
SA52-11EWA	SC52-11EWA	0.52 inch (13.2mm) Gray Face White Segment	GaAsP/GaP	625	1900	6400	21
SA52-11SRWA	SC52-11SRWA		GaAlAs	640	8000	24000	
SA52-11YWA	SC52-11YWA		GaAsP/GaP	588	1900	4700	
SA52-11GWA	SC52-11GWA		GaP	568	3000	10500	
SA56-11EWA SA56-21EWA	SC56-11EWA SC56-21EWA	0.56 inch (14.2mm) Gray Face White Segment	GaAsP/GaP	625	1900	6400	22
SA56-11SRWA SA56-21SRWA	SC56-11SRWA SC56-21SRWA		GaAlAs	640	8000	24000	
SA56-11YWA SA56-21YWA	SC56-11YWA SC56-21YWA		GaAsP/GaP	588	1900	4700	
SA56-11GWA SA56-21GWA	SC56-11GWA SC56-21GWA		GaP	568	3000	10500	
SA08-11EWA SA08-12EWA SA08-13EWA SA08-21EWA	SC08-11EWA SC08-12EWA SC08-13EWA SC08-21EWA	0.8 inch (20.32mm) Gray Face White Segment	GaAsP/GaP	625	1900	6400	23
SA08-11SRWA SA08-12SRWA SA08-13SRWA SA08-21SRWA	SC08-11SRWA SC08-12SRWA SC08-13SRWA SC08-21SRWA		GaAlAs	640	8000	24000	
SA08-11YWA SA08-12YWA SA08-13YWA SA08-21YWA	SC08-11YWA SC08-12YWA SC08-13YWA SC08-21YWA		GaAsP/GaP	588	1900	4700	
SA08-11GWA SA08-12GWA SA08-13GWA SA08-21GWA	SC08-11GWA SC08-12GWA SC08-13GWA SC08-21GWA		GaP	568	3000	10500	
SA10-11EWA SA10-21EWA	SC10-11EWA SC10-21EWA	1.0 inch (25.4mm) Gray Face White Segment	GaAsP/GaP	625	4700	16000	24
SA10-11SRWA SA10-21SRWA	SC10-11SRWA SC10-21SRWA		GaAlAs	640	18000	60000	
SA10-11YWA SA10-21YWA	SC10-11YWA SC10-21YWA		GaAsP/GaP	588	3000	10500	
SA10-11GWA SA10-21GWA	SC10-11GWA SC10-21GWA		GaP	568	8000	24000	
SA15-11EWA SA15-11SRWA SA15-11YWA SA15-11GWA	SC15-11EWA SC15-11SRWA SC15-11YWA SC15-11GWA	1.5 inch (38.1mm) Gray Face White Segment	GaAsP/GaP	625	4700	16000	25
			GaAlAs	640	18000	60000	
			GaAsP/GaP	588	3000	8000	
			GaP	568	8000	24000	
SBA15-11EGWA	SBC15-11EGWA		GaAsP/GaP	625	4700	16000	
		GaP	568	8000	24000		
SA18-11EWA SA18-11SRWA SA18-11YWA SA18-11GWA	SC18-11EWA SC18-11SRWA SC18-11YWA SC18-11GWA	1.75 inch (44.5mm) Gray Face White Segment	GaAsP/GaP	625	8000	24000	26
			GaAlAs	640	26000	75000	
			GaAsP/GaP	588	3000	8000	
			GaP	568	12000	26000	
SBA18-11EGWA	SBC18-11EGWA		GaAsP/GaP	625	8000	18000	
		GaP	568	12000	26000		

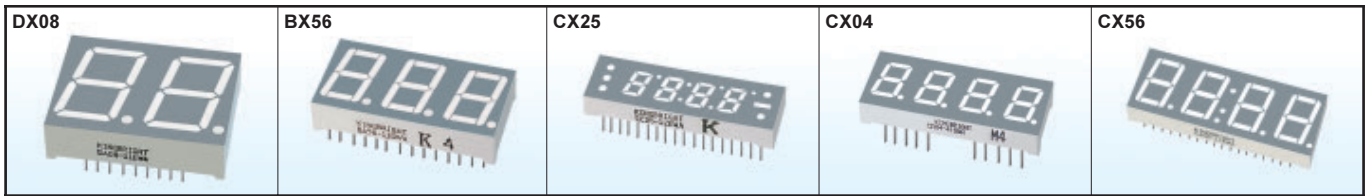
NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



Part No.		Package Description	Material	λ D (nm)	Iv (ucd) @10mA		Package Dimension
Common Anode	Common Cathode				Min.	Typ.	
SA23-11EWA SA23-12EWA	SC23-11EWA SC23-12EWA	2.24 inch (56.9mm) Gray Face White Segment	GaAsP/GaP	625	8000	18000	27
SA23-11SRWA SA23-12SRWA	SC23-11SRWA SC23-12SRWA		GaAlAs	640	26000	75000	
SA23-11YWA SA23-12YWA	SC23-11YWA SC23-12YWA		GaAsP/GaP	588	3000	8000	
SA23-11GWA SA23-12GWA	SC23-11GWA SC23-12GWA		GaP	568	8000	24000	
SBA23-11EGWA	SBC23-11EGWA		GaAsP/GaP	625	8000	18000	
			GaP	568	8000	24000	
SA40-18EWA SA40-19EWA	SC40-18EWA SC40-19EWA	3.984 inch (101.2mm) Gray Face White Segment	GaAsP/GaP	625	18000	44000	28
SA40-18SRWA SA40-19SRWA	SC40-18SRWA SC40-19SRWA		GaAlAs	640	26000	105000	
SA40-18YWA SA40-19YWA	SC40-18YWA SC40-19YWA		GaAsP/GaP	588	12000	26000	
SA40-18GWA SA40-19GWA	SC40-18GWA SC40-19GWA		GaP	568	18000	60000	
DA03-11EWA	DC03-11EWA	0.3 inch (7.62mm) Gray Face White Segment	GaAsP/GaP	625	800	1900	29
DA03-11SRWA	DC03-11SRWA		GaAlAs	640	3000	8000	
DA03-11YWA	DC03-11YWA		GaAsP/GaP	588	480	1200	
DA03-11GWA	DC03-11GWA		GaP	568	1200	3000	
DA04-11EWA	DC04-11EWA	0.394 inch (10mm) Gray Face White Segment	GaAsP/GaP	625	1900	4700	30
DA04-11SRWA	DC04-11SRWA		GaAlAs	640	8000	18000	
DA04-11YWA	DC04-11YWA		GaAsP/GaP	588	1200	3000	
DA04-11GWA	DC04-11GWA		GaP	568	3000	8000	
DA56-11EWA	DC56-11EWA	0.56 inch (14.22mm) Gray Face White Segment	GaAsP/GaP	625	1900	8000	31
DA56-11SRWA	DC56-11SRWA		GaAlAs	640	8000	24000	
DA56-11YWA	DC56-11YWA		GaAsP/GaP	588	1900	4700	
DA56-11GWA	DC56-11GWA		GaP	568	3000	10500	

NOTES:

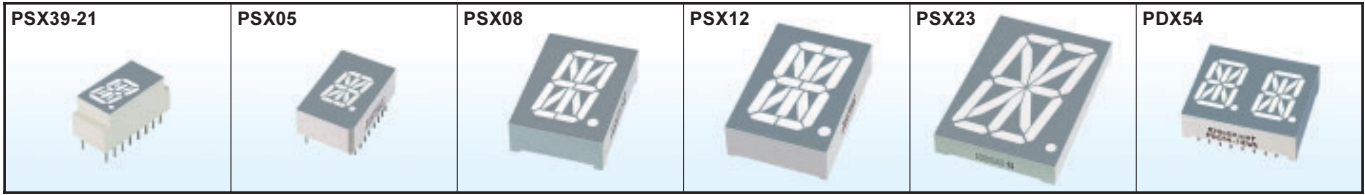
1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.		Package Description	Material	λ D (nm)	Iv (ucd) @10mA		Package Dimension
Common Anode	Common Cathode				Min.	Typ.	
DA08-11EWA	DC08-11EWA	0.8 inch (20.32mm) Gray Face White Segment	GaAsP/GaP	625	3000	8000	32
DA08-11SRWA	DC08-11SRWA		GaAlAs	640	8000	24000	
DA08-11YWA	DC08-11YWA		GaAsP/GaP	588	1900	4700	
DA08-11GWA	DC08-11GWA		GaP	568	3000	10500	
BA56-11EWA BA56-12EWA BA56-13EWA	BC56-11EWA BC56-12EWA BC56-13EWA	0.56 inch (14.22mm) Gray Face White Segment	GaAsP/GaP	625	1900	6400	33
BA56-11SRWA BA56-12SRWA BA56-13SRWA	BC56-11SRWA BC56-12SRWA BC56-13SRWA		GaAlAs	640	8000	24000	
BA56-11YWA BA56-12YWA BA56-13YWA	BC56-11YWA BC56-12YWA BC56-13YWA		GaAsP/GaP	588	1900	4700	
BA56-11GWA BA56-12GWA BA56-13GWA	BC56-11GWA BC56-12GWA BC56-13GWA		GaP	568	3000	10500	
CA25-11EWA CA25-12EWA	CC25-11EWA CC25-12EWA	0.244 inch (6.2mm) Gray Face White Segment	GaAsP/GaP	625	1900	6400	34
CA25-11YWA CA25-12YWA	CC25-11YWA CC25-12YWA		GaAsP/GaP	588	1200	3000	
CA25-11GWA CA25-12GWA	CC25-11GWA CC25-12GWA		GaP	568	3000	10500	
CA04-41EWA	CC04-41EWA	0.4 inch (10.16mm) Gray Face White Segment	GaAsP/GaP	625	1900	4700	35
CA04-41SRWA	CC04-41SRWA		GaAlAs	640	8000	18000	
CA04-41YWA	CC04-41YWA		GaAsP/GaP	588	1900	4700	
CA04-41GWA	CC04-41GWA		GaP	568	1900	6400	
CA56-11EWA CA56-12EWA CA56-21EWA	CC56-11EWA CC56-12EWA CC56-21EWA	0.56 inch (14.22mm) Gray Face White Segment	GaAsP/GaP	625	1900	6400	36
CA56-11SRWA CA56-12SRWA CA56-21SRWA	CC56-11SRWA CC56-12SRWA CC56-21SRWA		GaAlAs	640	8000	24000	
CA56-11YWA CA56-12YWA CA56-21YWA	CC56-11YWA CC56-12YWA CC56-21YWA		GaAsP/GaP	588	1900	4700	
CA56-11GWA CA56-12GWA CA56-21GWA	CC56-11GWA CC56-12GWA CC56-21GWA		GaP	568	3000	10500	

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



Part No.		Package Description	Material	λ D (nm)	Iv (ucd) @10mA		Package Dimension
Common Anode	Common Cathode				Min.	Typ.	
PSA39-21EWA	PSC39-21EWA	0.39 inch (9.9mm) Gray Face White Segment	GaAsP/GaP	625	1200	3188	37
PSA39-21SRWA	PSC39-21SRWA		GaAlAs	640	3000	13250	
PSA39-21YWA	PSC39-21YWA		GaAsP/GaP	588	480	1278	
PSA39-21GWA	PSC39-21GWA		GaP	568	1200	2679	
PSA05-11EWA PSA05-12EWA	PSC05-11EWA PSC05-12EWA	0.5 inch (12.7mm) Gray Face White Segment	GaAsP/GaP	625	1200	4100	38
PSA05-11SRWA PSA05-12SRWA	PSC05-11SRWA PSC05-12SRWA		GaAlAs	640	8000	18000	
PSA05-11YWA PSA05-12YWA	PSC05-11YWA PSC05-12YWA		GaAsP/GaP	588	1200	3000	
PSA05-11GWA PSA05-12GWA	PSC05-11GWA PSC05-12GWA		GaP	568	1900	4700	
PSA08-11EWA PSA08-12EWA	PSC08-11EWA PSC08-12EWA	0.8 inch (20.32mm) Gray Face White Segment	GaAsP/GaP	625	1900	4700	39
PSA08-11SRWA PSA08-12SRWA	PSC08-11SRWA PSC08-12SRWA		GaAlAs	640	8000	18000	
PSA08-11YWA PSA08-12YWA	PSC08-11YWA PSC08-12YWA		GaAsP/GaP	588	1200	3000	
PSA08-11GWA PSA08-12GWA	PSC08-11GWA PSC08-12GWA		GaP	568	1900	4700	
PSA12-11EWA	PSC12-11EWA	1.2 inch (30.48mm) Gray Face White Segment	GaAsP/GaP	625	4700	12000	40
PSA12-11SRWA	PSC12-11SRWA		GaAlAs	640	12000	26000	
PSA12-11YWA	PSC12-11YWA		GaAsP/GaP	588	1900	4700	
PSA12-11GWA	PSC12-11GWA		GaP	568	4700	12000	
PSA23-11EWA	PSC23-11EWA	2.24 inch (56.8mm) Gray Face White Segment	GaAsP/GaP	625	3000	8000	41
PSA23-11SRWA	PSC23-11SRWA		GaAlAs	640	12000	75000	
PSA23-11YWA	PSC23-11YWA		GaAsP/GaP	588	3000	8000	
PSA23-11GWA	PSC23-11GWA		GaP	568	3000	10500	
PDA54-11EWA PDA54-12EWA	PDC54-11EWA PDC54-12EWA	0.543 inch (13.8mm) Gray Face White Segment	GaAsP/GaP	625	1900	4700	42
PDA54-11SRWA PDA54-12SRWA	PDC54-11SRWA PDC54-12SRWA		GaAlAs	640	8000	18000	
PDA54-11YWA PDA54-12YWA	PDC54-11YWA PDC54-12YWA		GaAsP/GaP	588	1200	3000	
PDA54-11GWA PDA54-12GWA	PDC54-11GWA PDC54-12GWA		GaP	568	3000	8000	

NOTES:

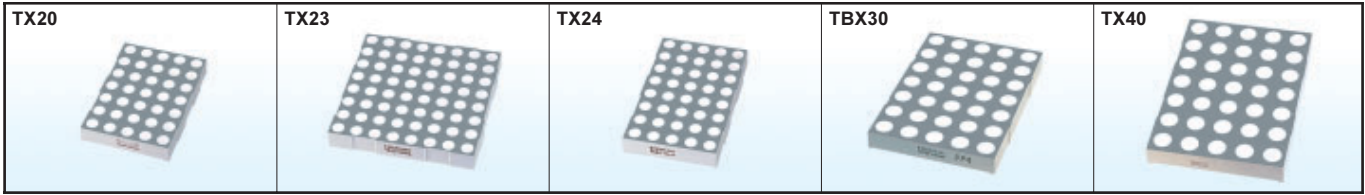
1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



Part No.		Package Description	Material	λ D (nm)	Iv (ucd) @10mA		Package Dimension
Column Anode	Column Cathode				Min.	Typ.	
TA07-11EWA	TC07-11EWA	0.7 inch (18mm) 5x7 Gray Face White Dot	GaAsP/GaP	625	3000	8000	43
TA07-11SRWA	TC07-11SRWA		GaAlAs	640	8000	24000	
TA07-11YWA	TC07-11YWA		GaAsP/GaP	588	1900	4700	
TA07-11GWA	TC07-11GWA		GaP	568	3000	8000	
TA12-11EWA	TC12-11EWA	1.2 inch (30mm) 5x7 Gray Face White Dot	GaAsP/GaP	625	3000	8000	44
TA12-11SRWA	TC12-11SRWA		GaAlAs	640	8000	24000	
TA12-11YWA	TC12-11YWA		GaAsP/GaP	588	1900	4700	
TA12-11GWA	TC12-11GWA		GaP	568	3000	10500	
TBA12-11EGWA	TBC12-11EGWA		GaAsP/GaP	625	3000	8000	
TBA12-12EGWA	TBC12-12EGWA		GaP	568	3000	10500	
TBA12-22EGWA	TBC12-22EGWA		GaAsP/GaP	625	3000	8000	
TBA12-22EGWA	TBC12-22EGWA		GaP	568	3000	10500	
TA16-11EWA	TC16-11EWA	1.4 inch (37mm) 5x8 Gray Face White Dot	GaAsP/GaP	625	3000	8000	45
TA16-11SRWA	TC16-11SRWA		GaAlAs	640	8000	24000	
TA16-11YWA	TC16-11YWA		GaAsP/GaP	588	1900	4700	
TA16-11GWA	TC16-11GWA		GaP	568	4700	12000	
TA15-11EWA	TC15-11EWA	1.5 inch (38mm) 8x8 Gray Face White Dot	GaAsP/GaP	625	3000	10500	46
TA15-11SRWA	TC15-11SRWA		GaAlAs	640	12000	26000	
TA15-11YWA	TC15-11YWA		GaAsP/GaP	588	3000	8000	
TA15-11GWA	TC15-11GWA		GaP	568	4700	16000	
TBA15-11EGWA	TBC15-11EGWA		GaAsP/GaP	625	3000	10500	
TBA15-11EGWA	TBC15-11EGWA		GaP	568	4700	16000	
TBA18-81EGWA	TBC18-81EGWA	1.8 inch (47.8mm) 8x8 Gray Face White Dot	GaAsP/GaP	625	4700	12000	47
TBA18-81EGWA	TBC18-81EGWA		GaP	568	12000	26000	

NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.

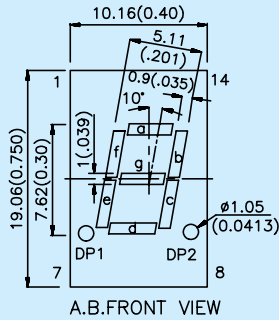


Part No.		Package Description	Material	λ D (nm)	Iv (ucd) @10mA		Package Dimension
Column Anode	Column Cathode				Min.	Typ.	
TA20-11EWA	TC20-11EWA	2.0 inch (50mm) 5x7 Gray Face White Dot	GaAsP/GaP	625	4700	12000	48
TA20-11SRWA	TC20-11SRWA		GaAlAs	640	12000	26000	
TA20-11YWA	TC20-11YWA		GaAsP/GaP	588	3000	8000	
TA20-11GWA	TC20-11GWA		GaP	568	4700	16000	
TBA20-11EGWA	TBC20-11EGWA		GaAsP/GaP	625	4700	12000	
TBA20-12EGWA	TBC20-12EGWA		GaP	568	4700	16000	
TBA20-22EGWA	TBC20-22EGWA		GaAsP/GaP	625	4700	12000	
TBA20-22EGWA	TBC20-22EGWA		GaP	568	4700	16000	
TA23-11EWA	TC23-11EWA	2.3 inch (58mm) 8x8 Gray Face White Dot	GaAsP/GaP	625	3000	8000	49
TA23-11SRWA	TC23-11SRWA		GaAlAs	640	18000	44000	
TA23-11YWA	TC23-11YWA		GaAsP/GaP	588	3000	8000	
TA23-11GWA	TC23-11GWA		GaP	568	4700	10500	
TBA23-11EGWA	TBC23-11EGWA		GaAsP/GaP	625	3000	8000	
TBA23-12EGWA	TBC23-12EGWA		GaP	568	4700	10500	
TBA23-12EGWA	TBC23-12EGWA		GaAsP/GaP	625	3000	8000	
TBA23-12EGWA	TBC23-12EGWA		GaP	568	4700	10500	
TA24-11EWA	TC24-11EWA	2.4 inch (60.8mm) 5x8 Gray Face White Dot	GaAsP/GaP	625	3000	8000	50
TA24-11SRWA	TC24-11SRWA		GaAlAs	640	12000	26000	
TA24-11YWA	TC24-11YWA		GaAsP/GaP	588	3000	8000	
TA24-11GWA	TC24-11GWA		GaP	568	4700	12000	
TBA24-11EGWA	TBC24-11EGWA		GaAsP/GaP	625	3000	8000	
TBA24-12EGWA	TBC24-12EGWA		GaP	568	4700	12000	
TBA24-22EGWA	TBC24-22EGWA		GaAsP/GaP	625	3000	8000	
TBA24-22EGWA	TBC24-22EGWA		GaP	568	4700	12000	
TBA30-12EGWA	TBC30-12EGWA	3.0 inch (76.2mm) 5x7 Gray Face White Dot	GaAsP/GaP	625	9000	21000	51
TBA30-12EGWA	TBC30-12EGWA	GaP	568	14000	31000		
TA40-11EWA	TC40-11EWA	4.0 inch (100mm) 5x7 Gray Face White Dot	GaAsP/GaP	625	4700	16000	52
TA40-11SRWA	TC40-11SRWA		GaAlAs	640	18000	44000	
TA40-11YWA	TC40-11YWA		GaAsP/GaP	588	3000	8000	
TA40-11GWA	TC40-11GWA		GaP	568	8000	24000	
TBA40-11EGWA	TBC40-11EGWA		GaAsP/GaP	625	4700	16000	
TBA40-12EGWA	TBC40-12EGWA		GaP	568	8000	24000	
TBA40-12EGWA	TBC40-12EGWA		GaAsP/GaP	625	4700	16000	
TBA40-12EGWA	TBC40-12EGWA		GaP	568	8000	24000	

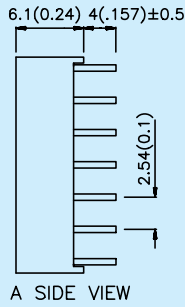
NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.

SA/SC03 Series

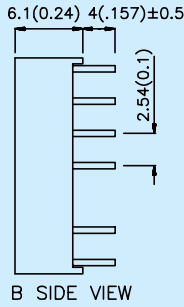
A: SA03-11
B: SC03-12



A.B. FRONT VIEW

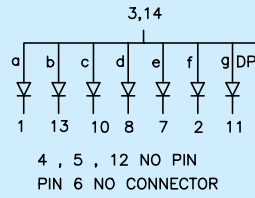


A SIDE VIEW

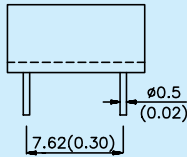
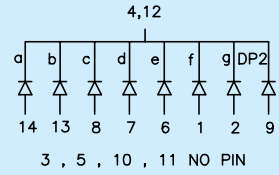


B SIDE VIEW

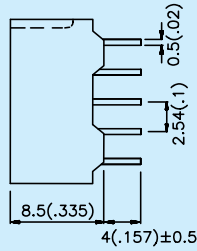
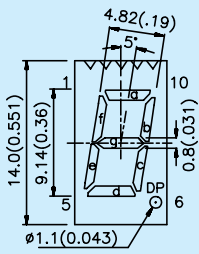
SA03-11



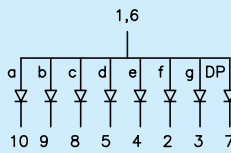
SC03-12



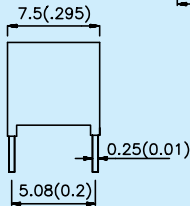
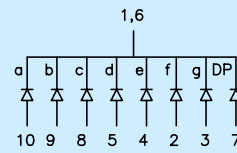
SA/SC36 Series



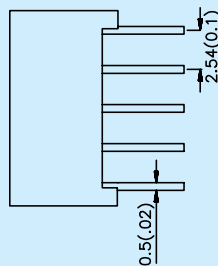
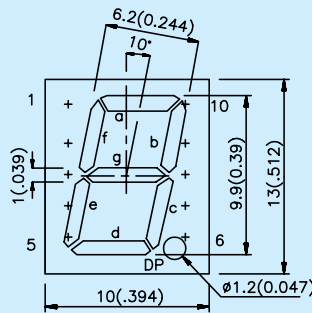
SA36-11



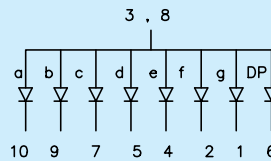
SC36-11



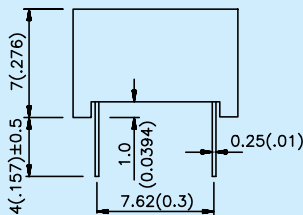
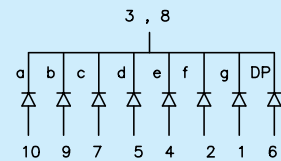
SA/SC39 Series



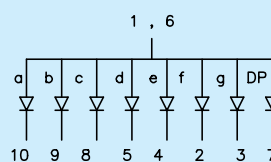
SA39-11



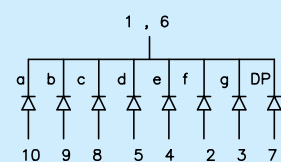
SC39-11



SA39-12



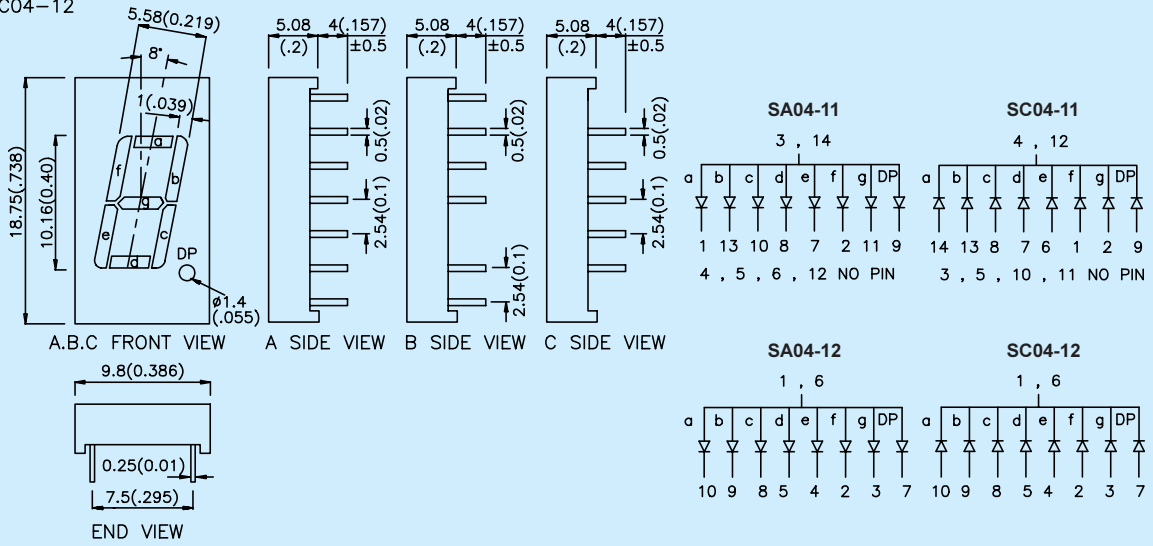
SC39-12



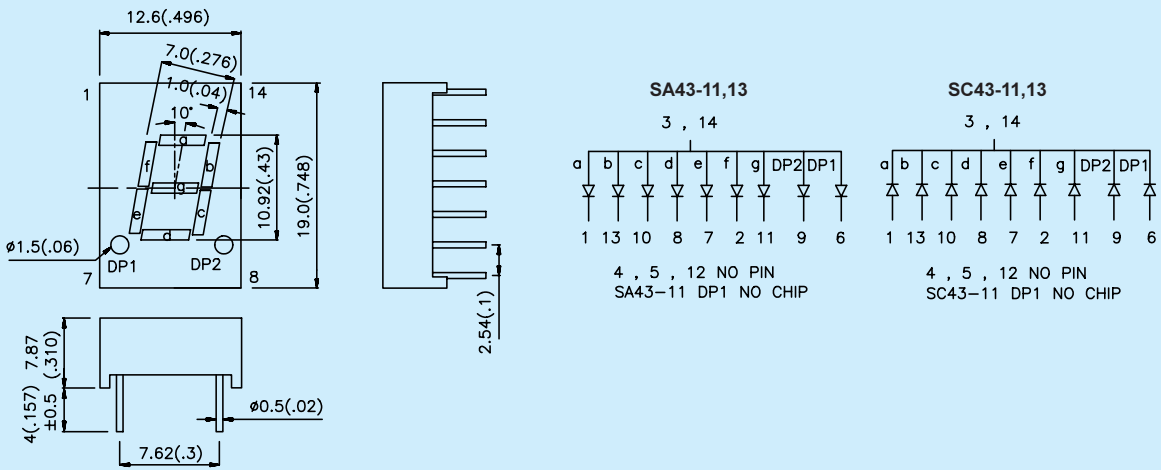
NOTES:
1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

SA/SC04 Series

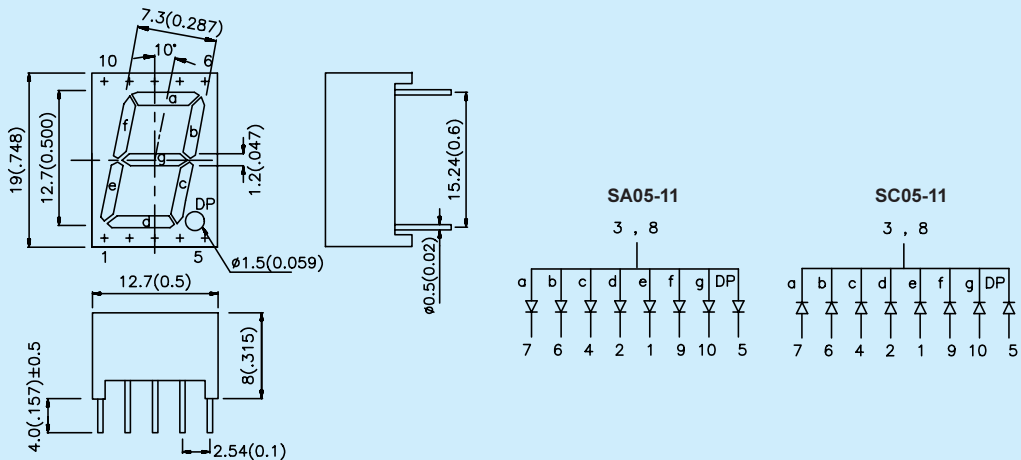
- A: SA04-11
- B: SC04-11
- C: SA/SC04-12



SA/SC43 Series



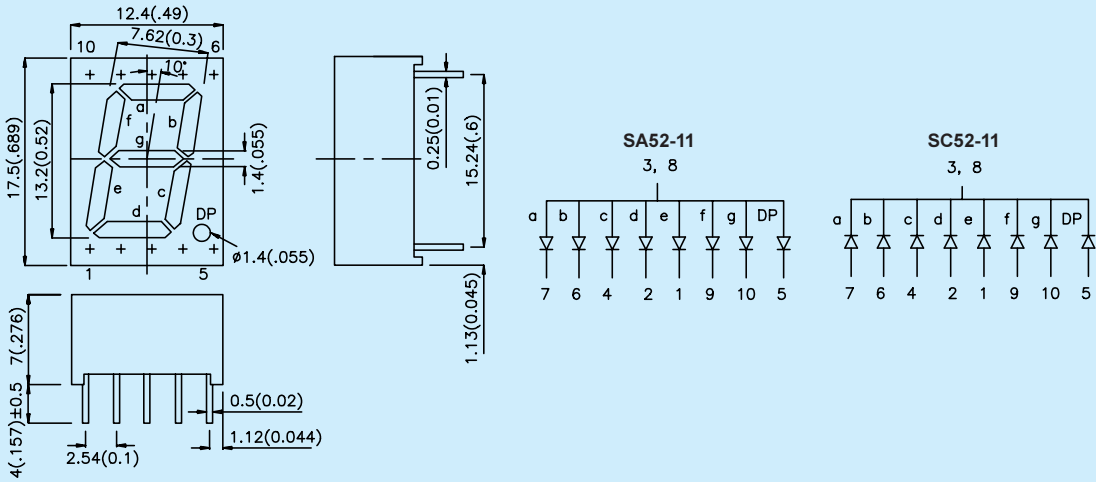
SA/SC05 Series



NOTES:
1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.

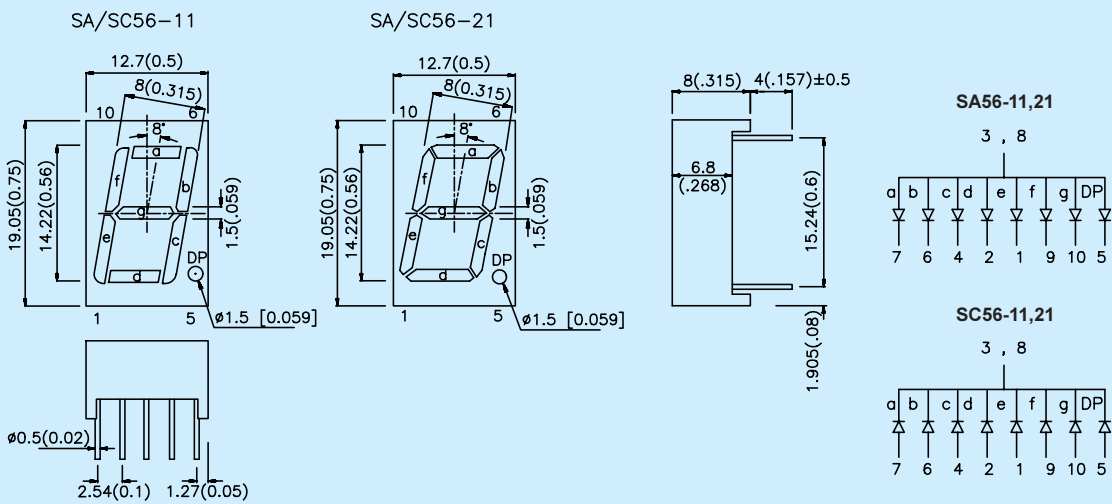
SA/SC52 Series

21



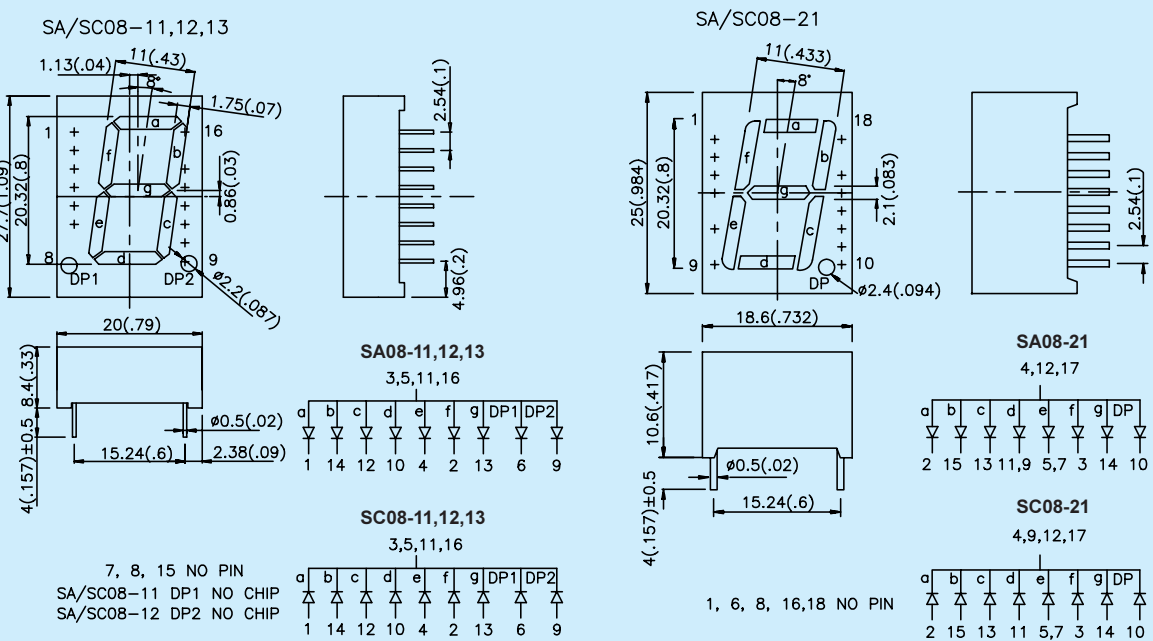
SA/SC56 Series

22



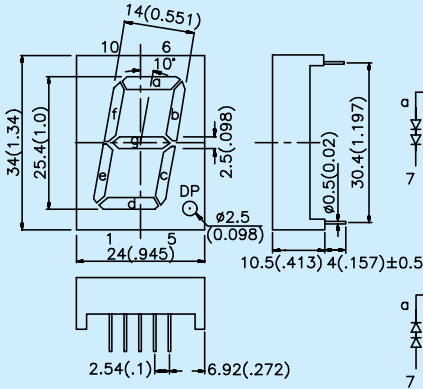
SA/SC08 Series

23

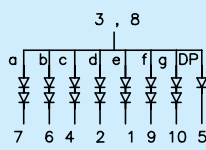


NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

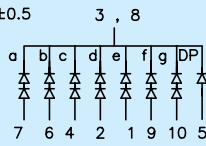
SA/SC10-21



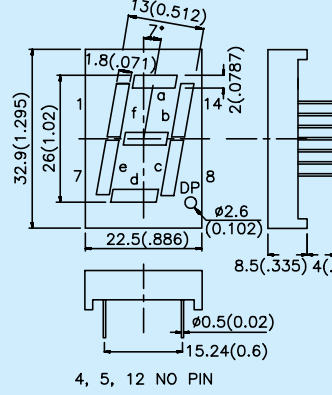
SA10-21



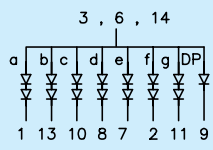
SC10-21



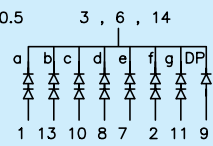
SA/SC10-11



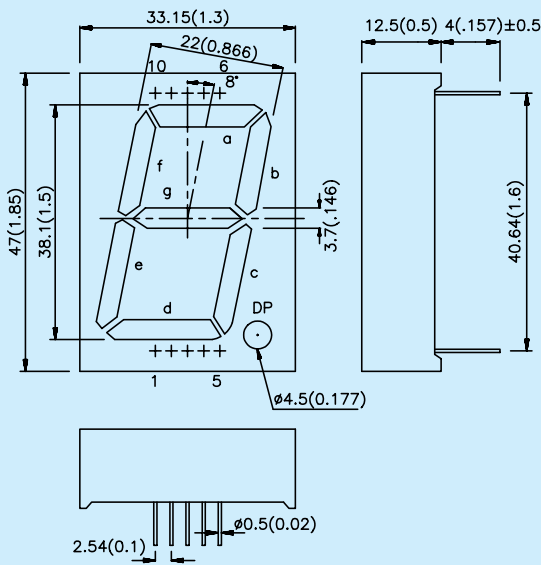
SA10-11



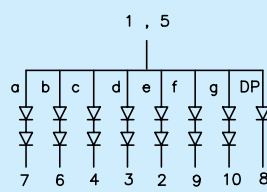
SC10-11



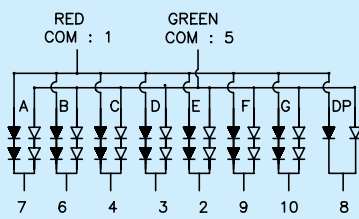
4, 5, 12 NO PIN



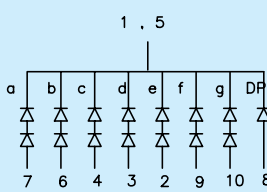
SA15-11



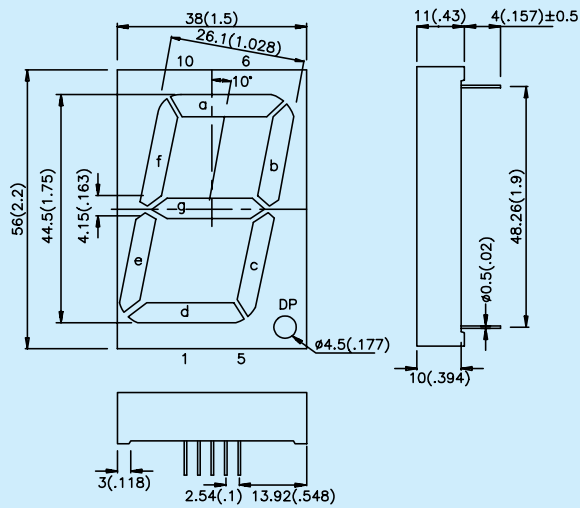
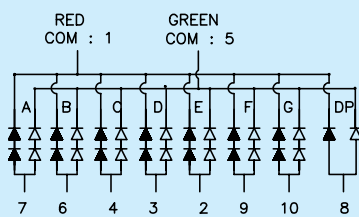
SBA15-11



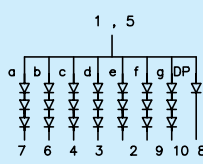
SC15-11



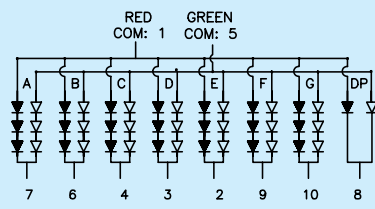
SBC15-11



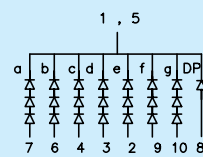
SA18-11



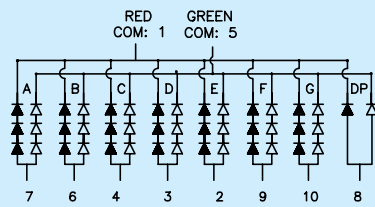
SBA18-11



SC18-11



SBC18-11

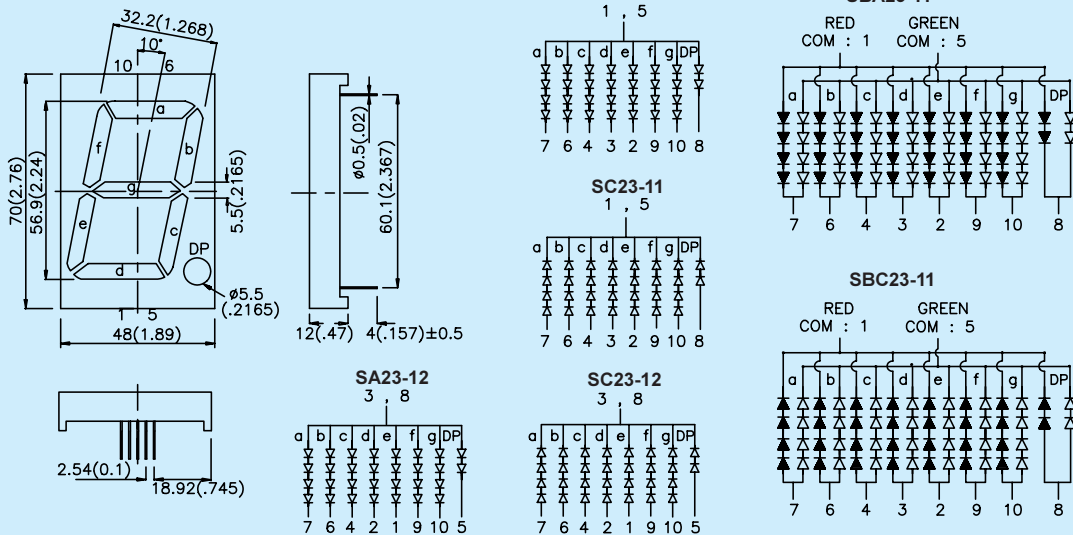


NOTES:

1. All dimensions are in millimeters(inches).
2. Tolerance is $\pm 0.25\text{mm}(0.01'')$ unless otherwise noted.

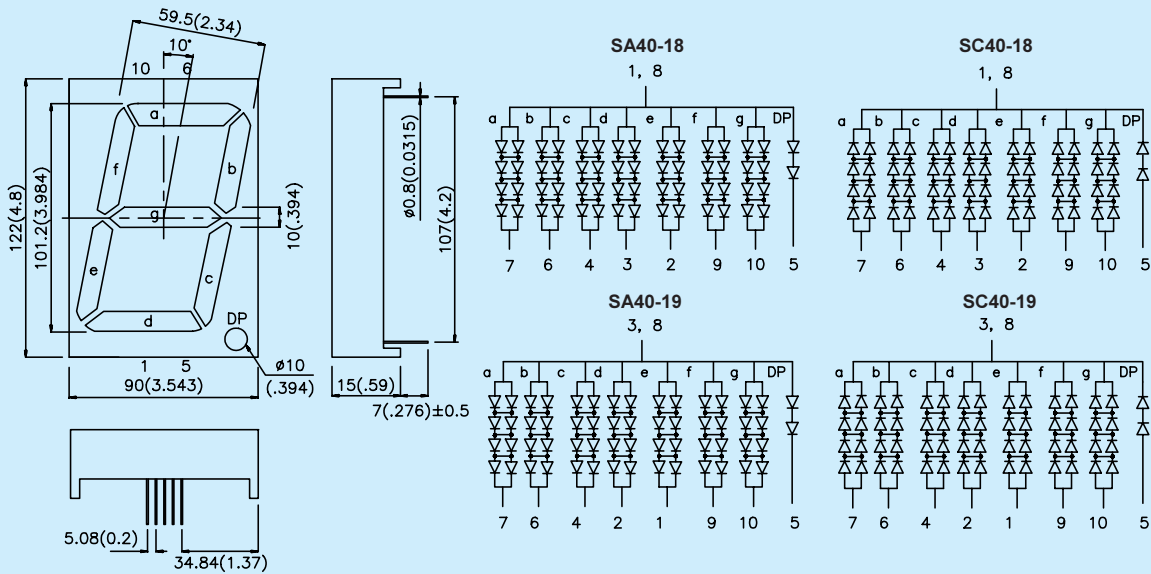
SA/SC23,SBA/SBC23 Series

27



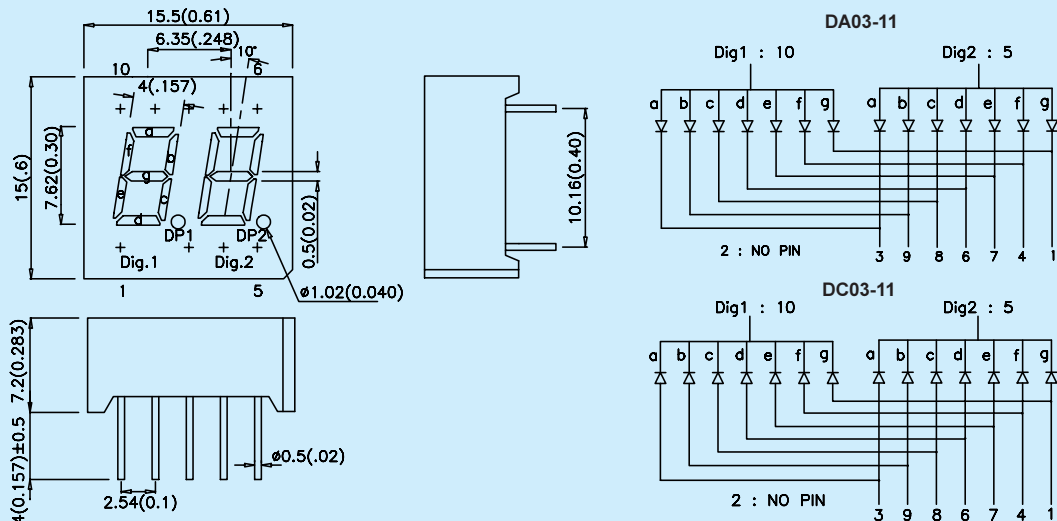
SA/SC40 Series

28



DA/DC03 Series

29

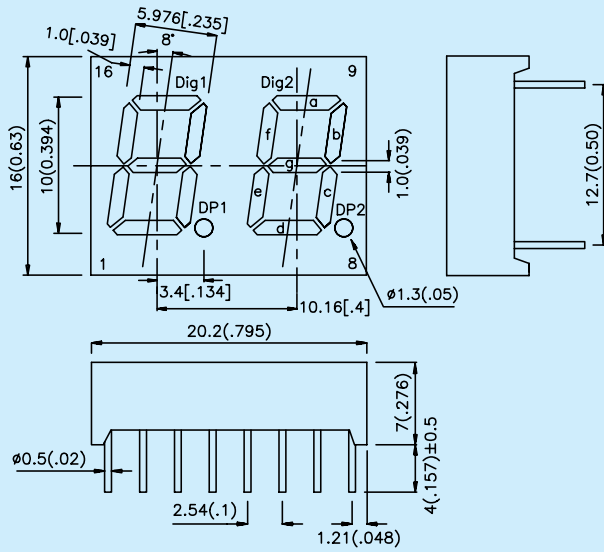


NOTES:

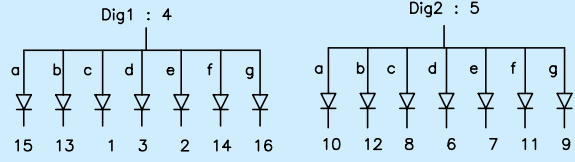
1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

DA/DC04 Series

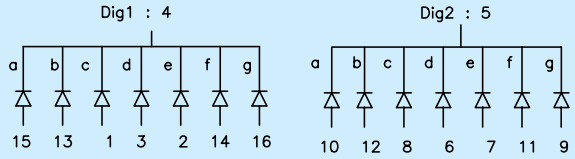
30



DA04-11

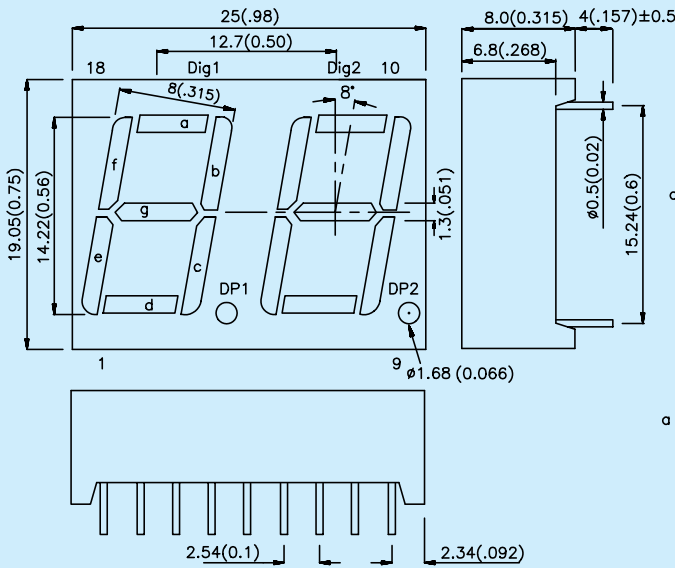


DC04-11

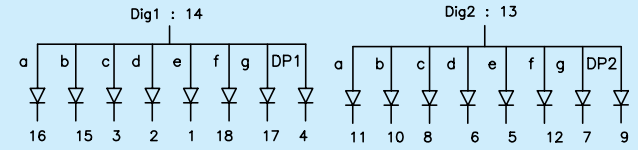


DA/DC56 Series

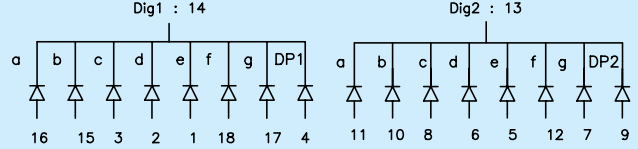
31



DA56-11

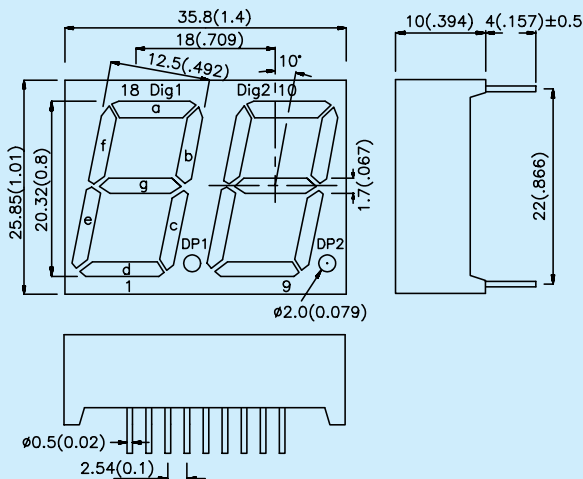


DC56-11

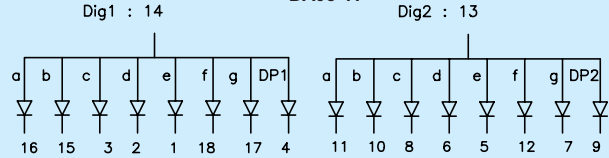


DA/DC08 Series

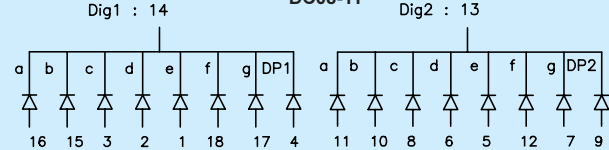
32



DA08-11



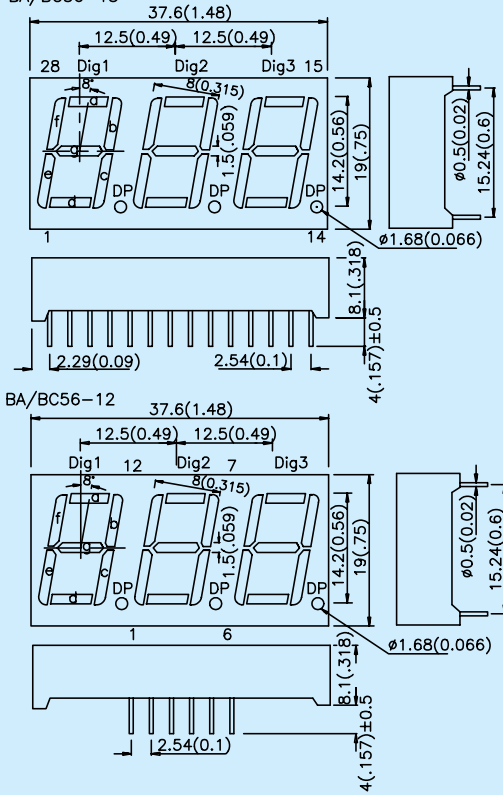
DC08-11



NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

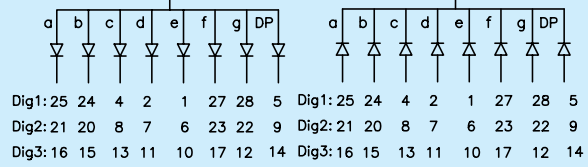
BA/BC56 Series

BA/BC56-11
BA/BC56-13



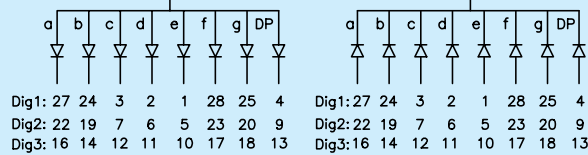
BA56-11
Dig1: 3,26
Dig2: 19
Dig3: 18

BC56-11
Dig1: 3,26
Dig2: 19
Dig3: 18



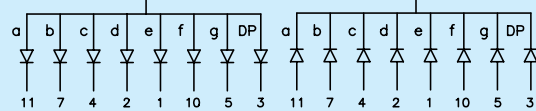
BA56-13
Dig1: 26
Dig2: 8,21
Dig3: 15

BC56-13
Dig1: 26
Dig2: 8,21
Dig3: 15



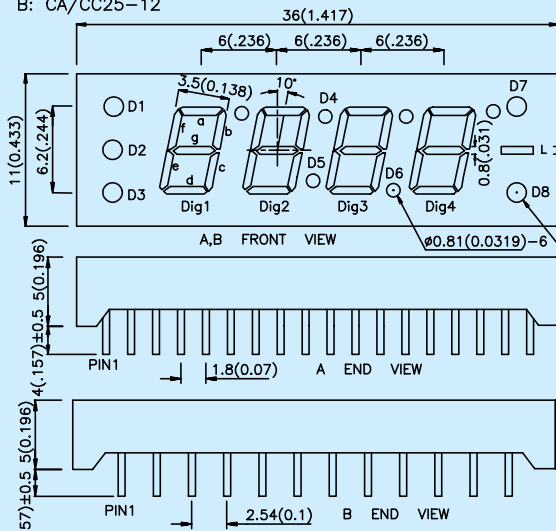
BA56-12
Dig1: 12
Dig2: 9
Dig3: 8

BC56-12
Dig1: 12
Dig2: 9
Dig3: 8



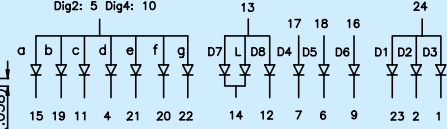
CA/CC25 Series

A: CA/CC25-11
B: CA/CC25-12

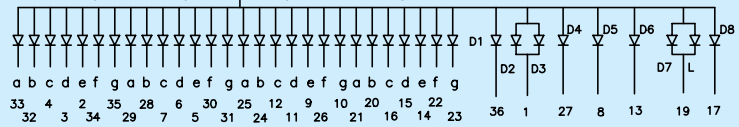


CA25-12
Dig1: 3 Dig3: 8
Dig2: 5 Dig4: 10

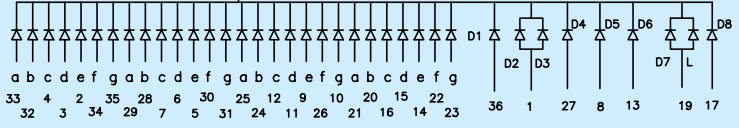
CA25-12



CA25-11
Dig1 Dig2 18 Dig3 Dig4



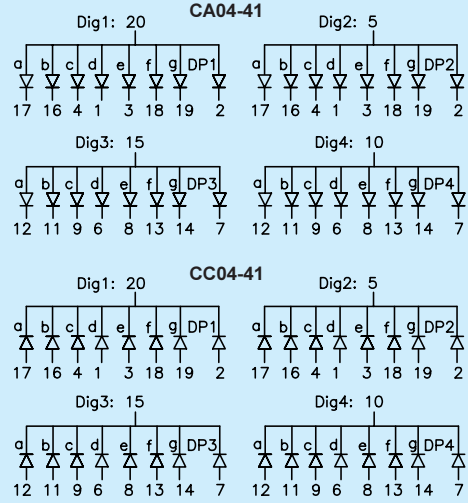
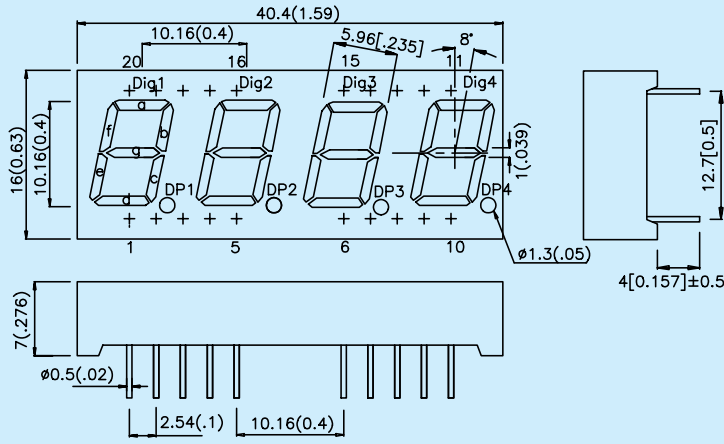
CC25-11
Dig1 Dig2 18 Dig3 Dig4



NOTES:
1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

CA/CC04 Series

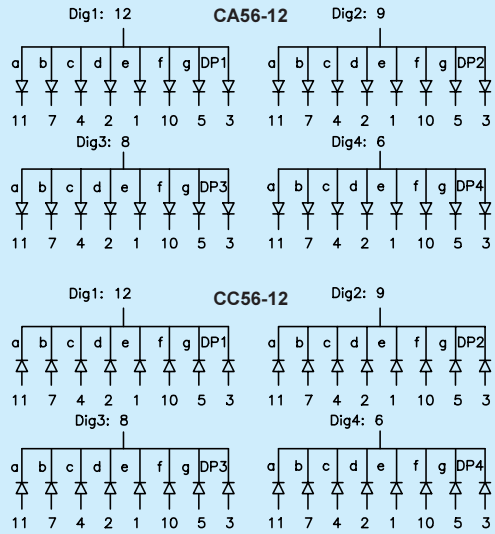
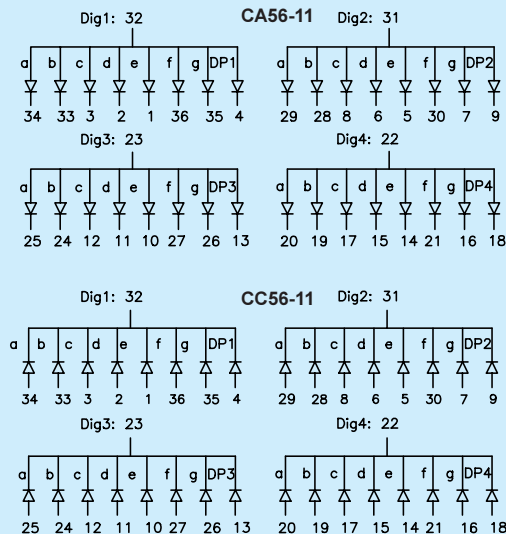
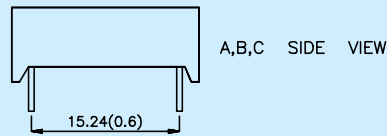
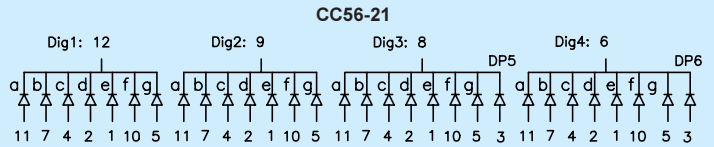
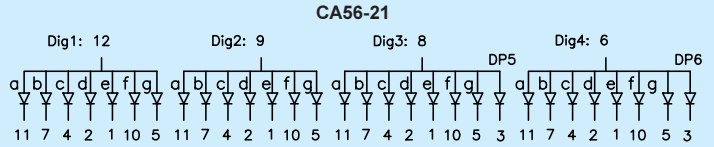
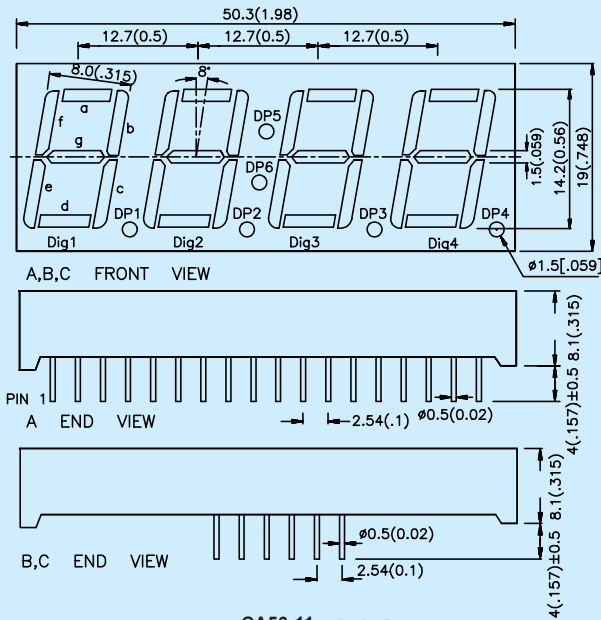
35



CA/CC56 Series

36

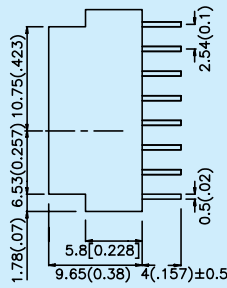
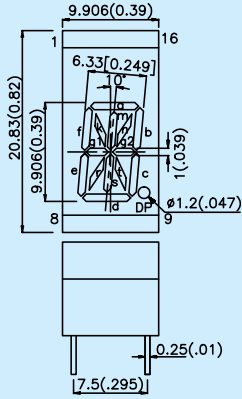
- A: CA/CC56-11
- B: CA/CC56-12
- C: CA/CC56-21



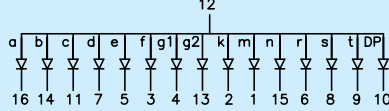
NOTES:
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PSA/PSC39-21 Series

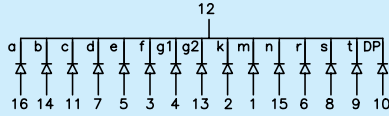
37



PSA39-21

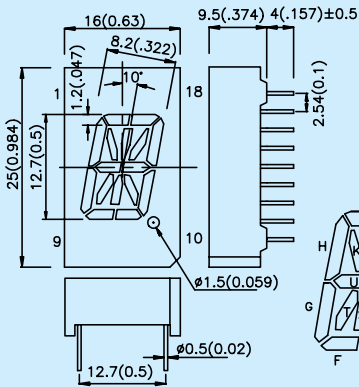


PSC39-21

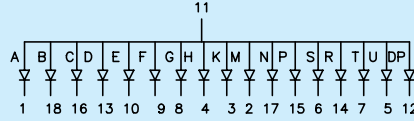


PSA/PSC05 Series

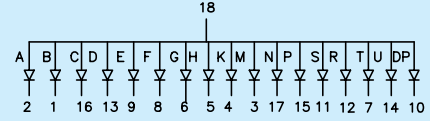
38



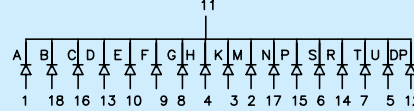
PSA05-11



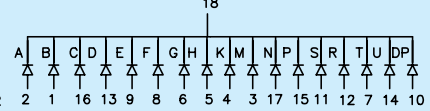
PSA05-12



PSC05-11

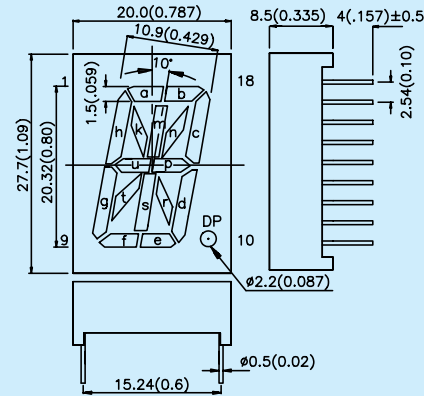


PSC05-12

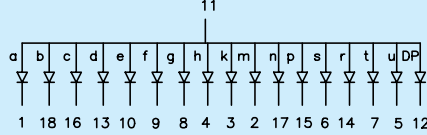


PSA/PSC08 Series

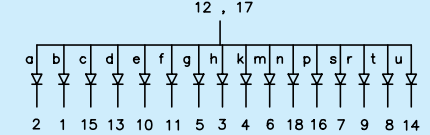
39



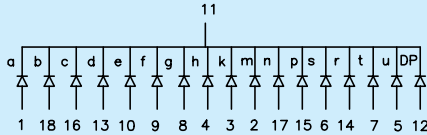
PSA08-11



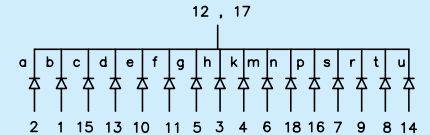
PSA08-12



PSC08-11

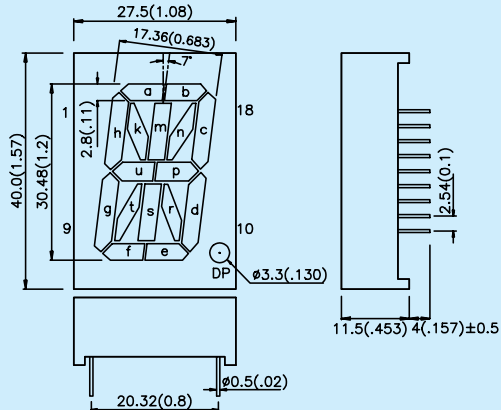


PSC08-12

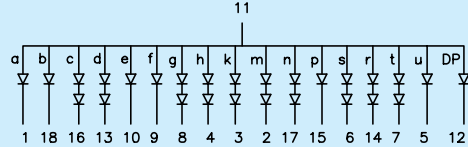


PSA/PSC12 Series

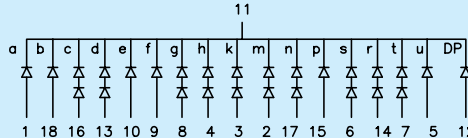
40



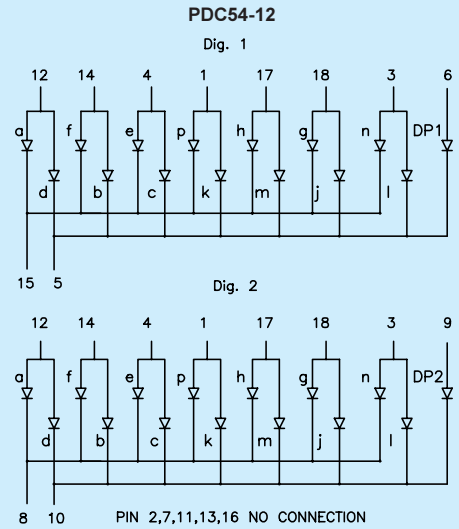
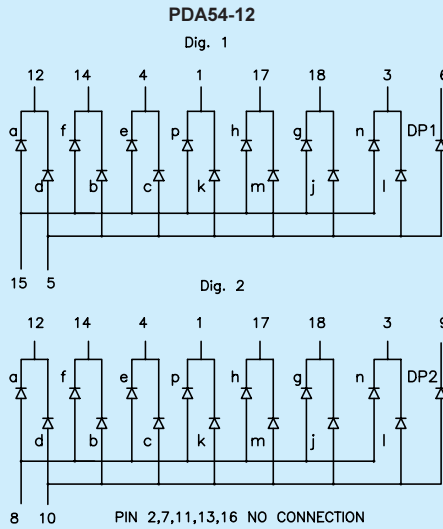
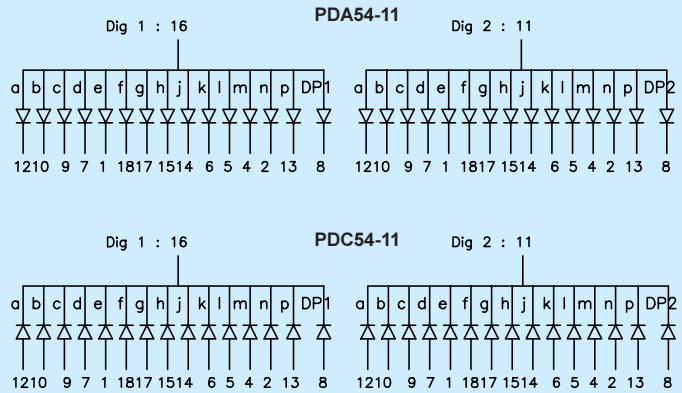
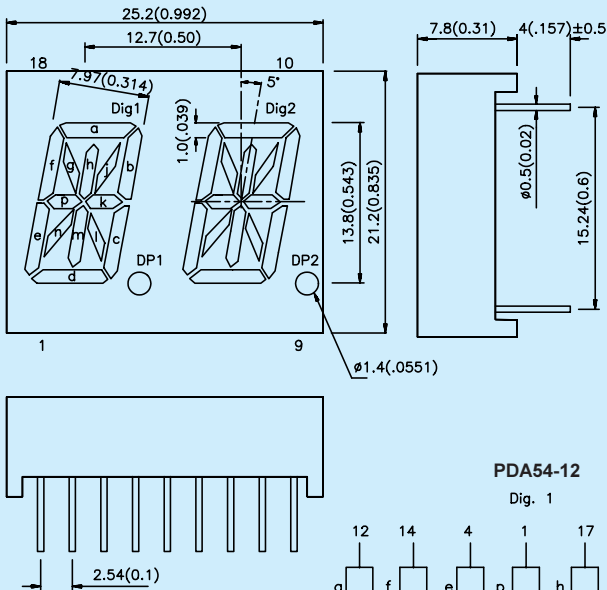
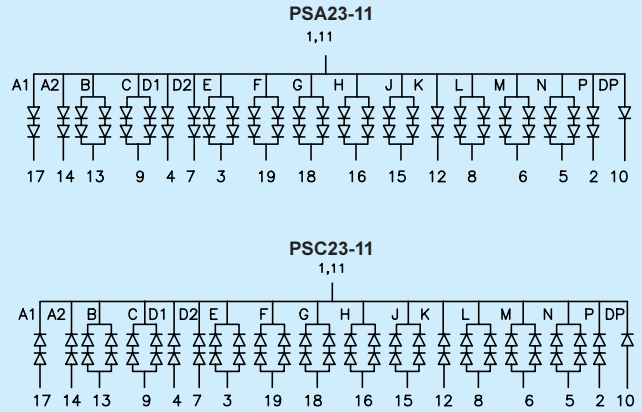
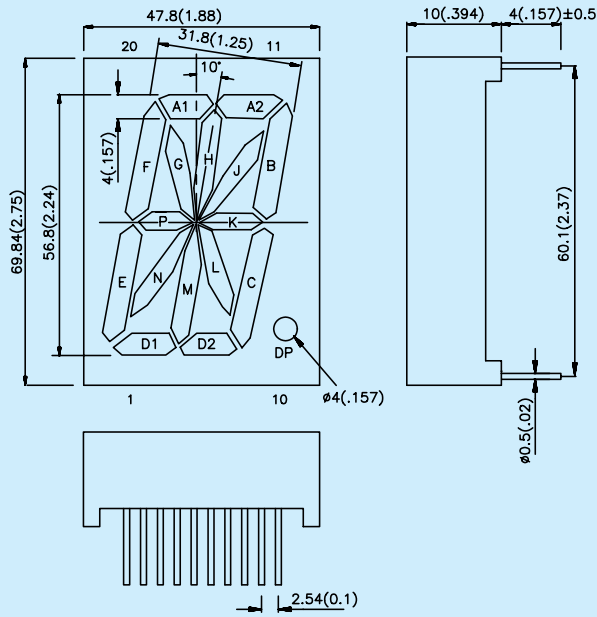
PSA12-11



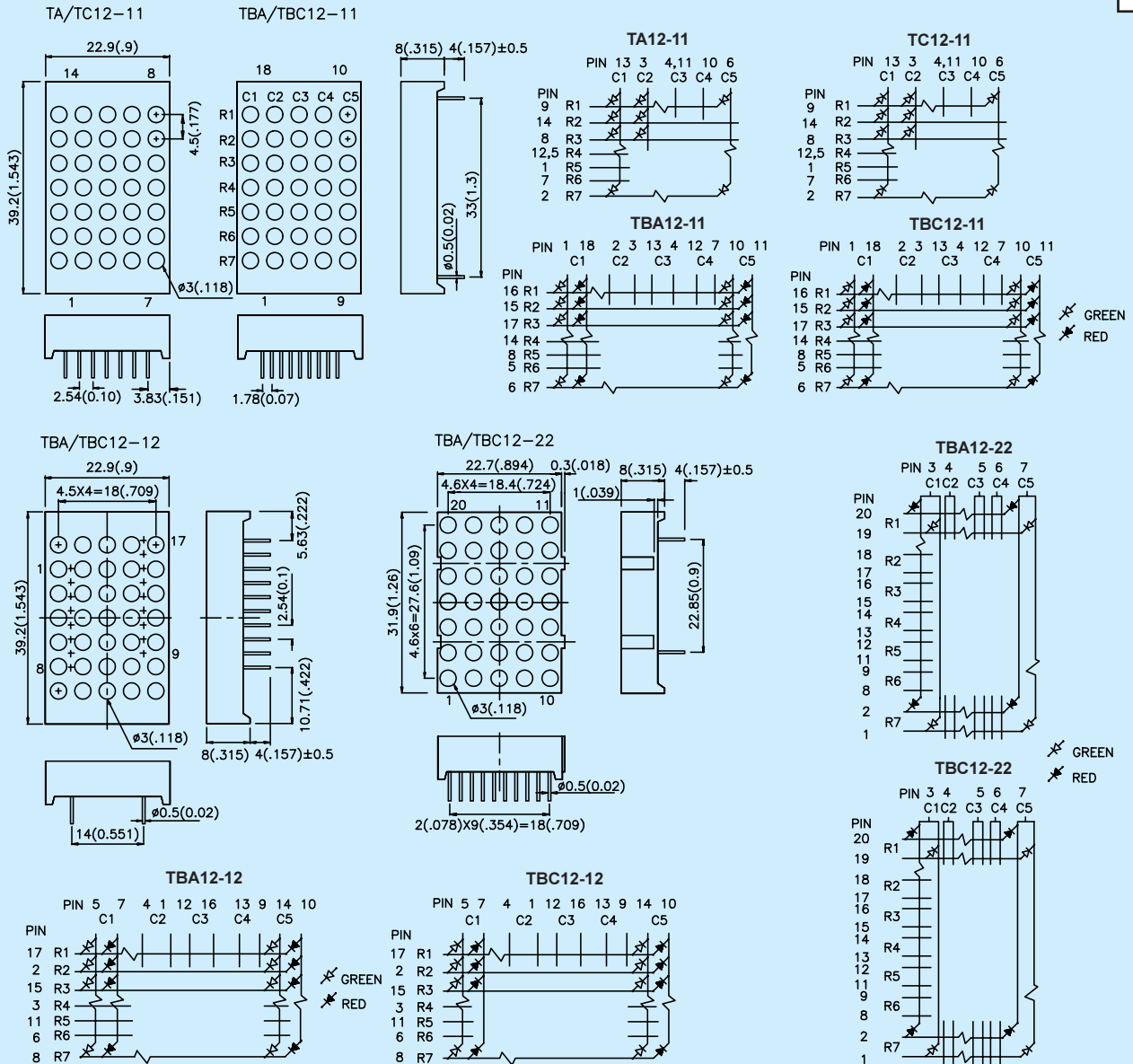
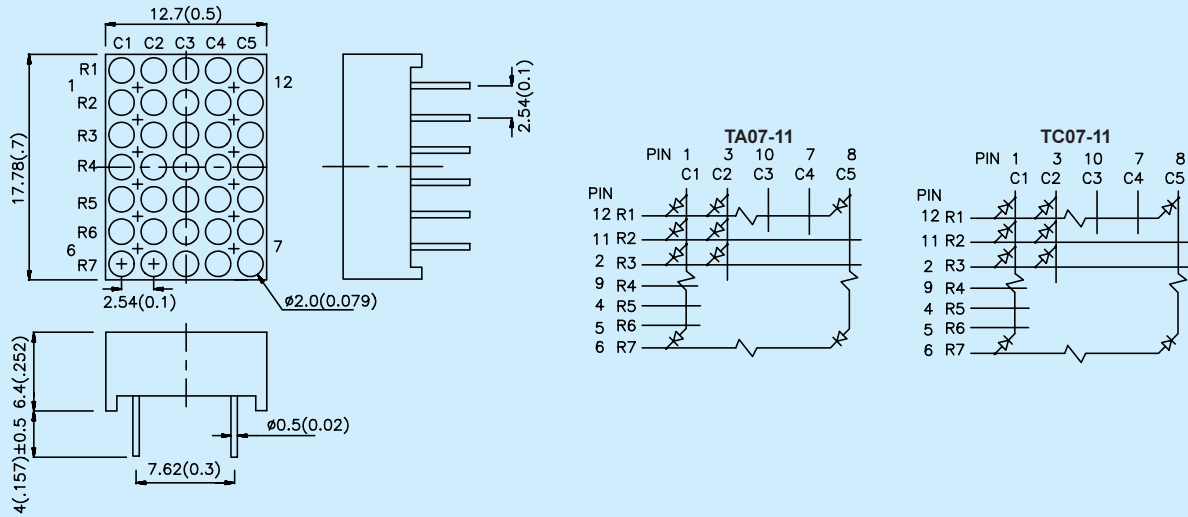
PSC12-11



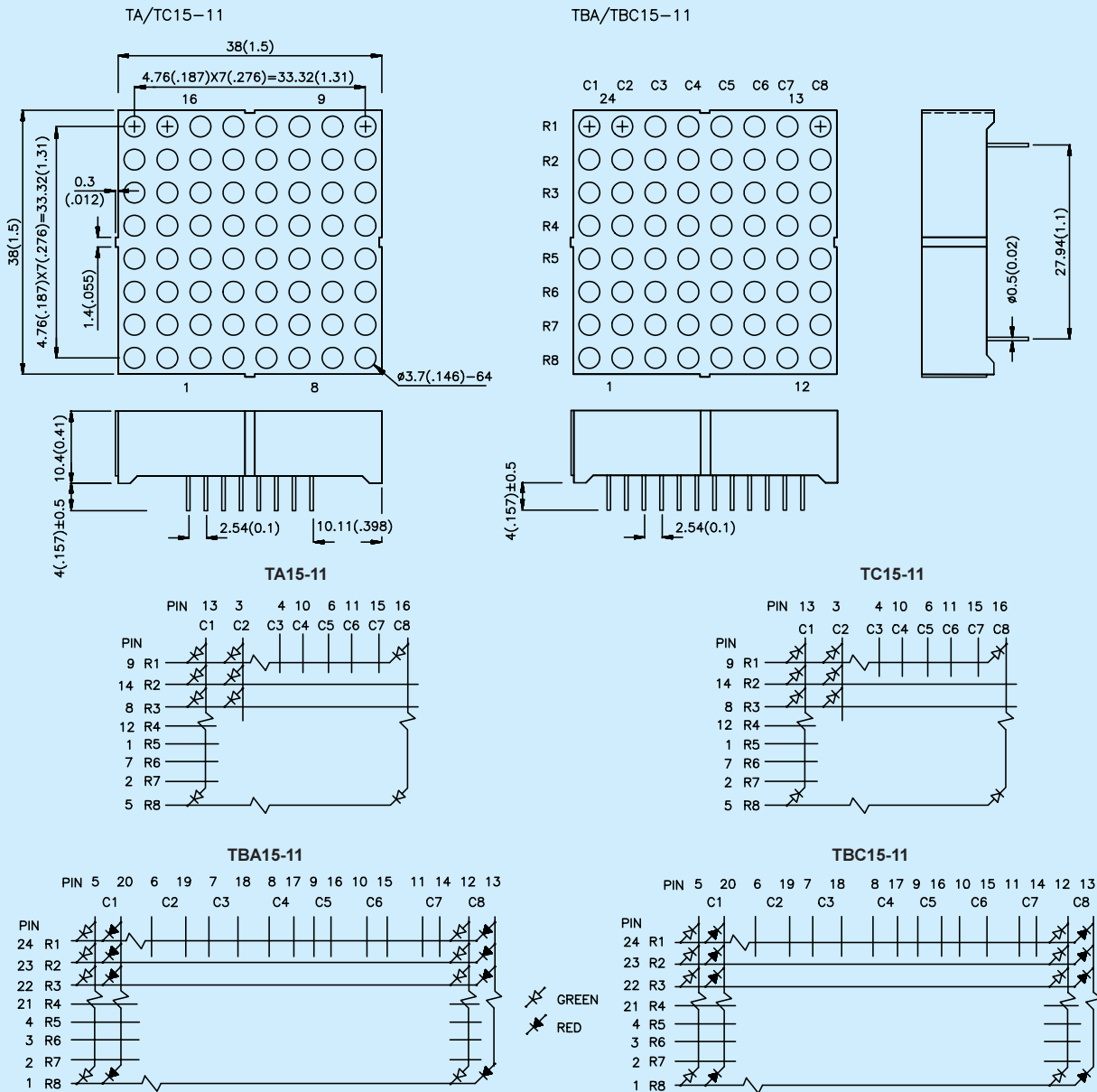
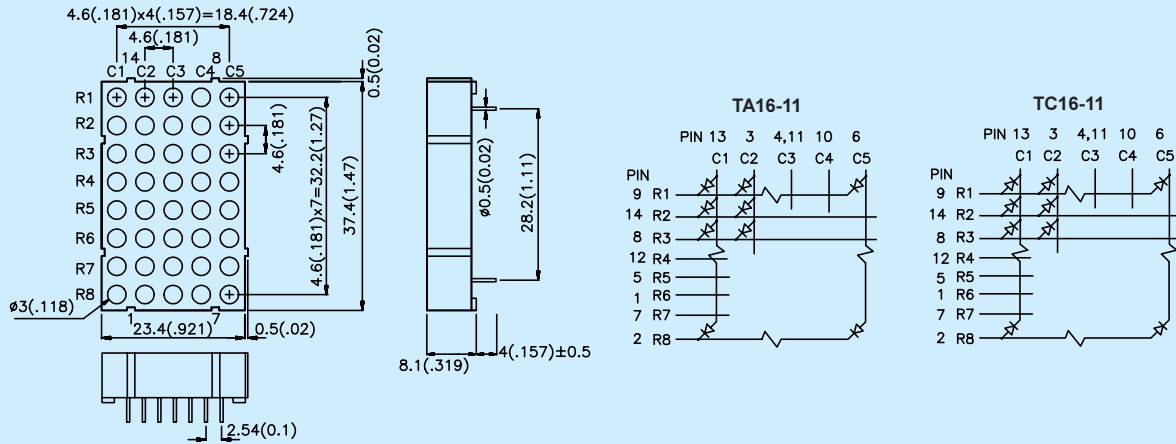
- NOTES:
 1. All dimensions are in millimeters(inches).
 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.



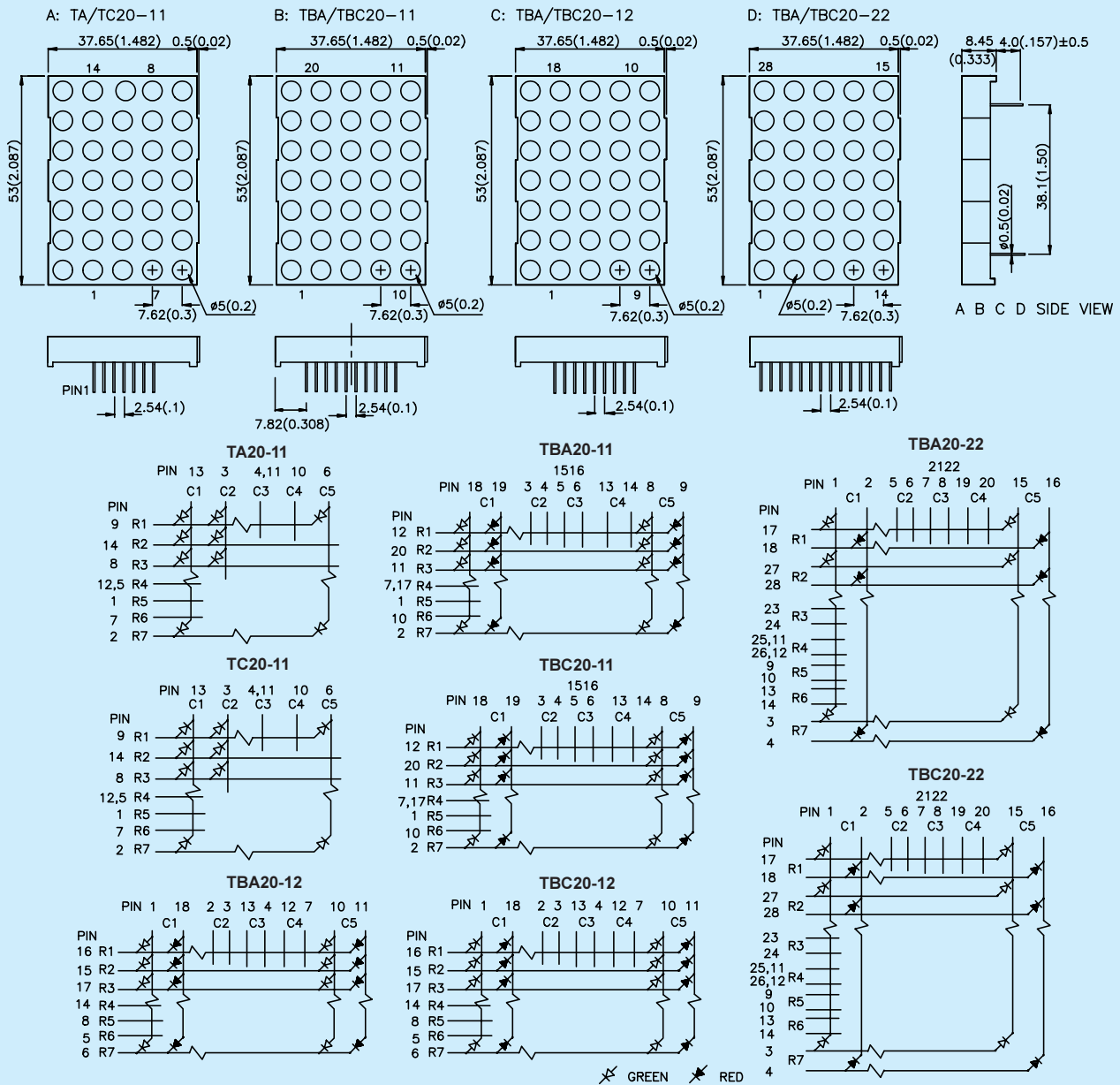
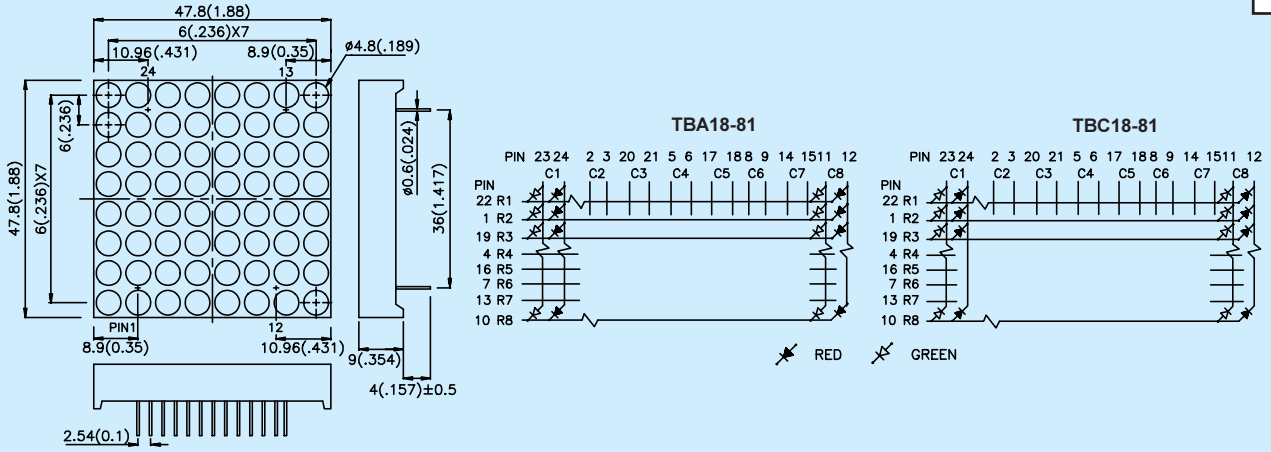
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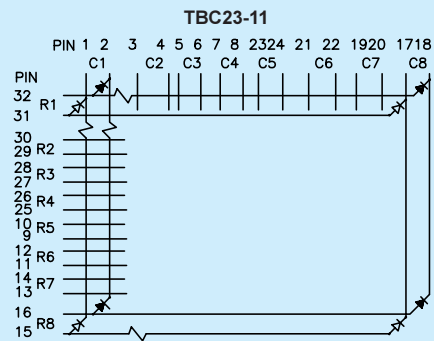
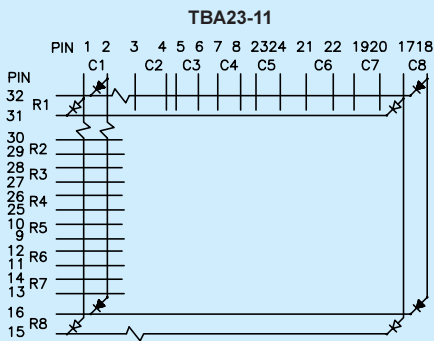
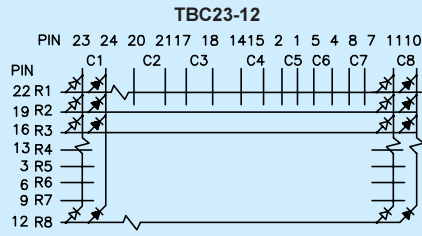
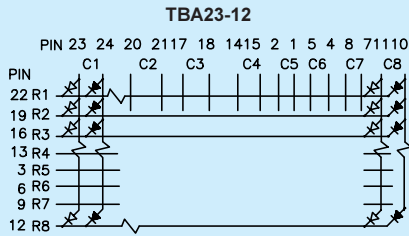
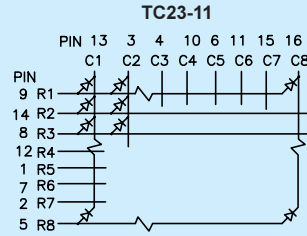
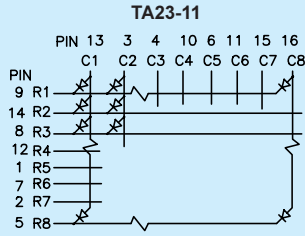
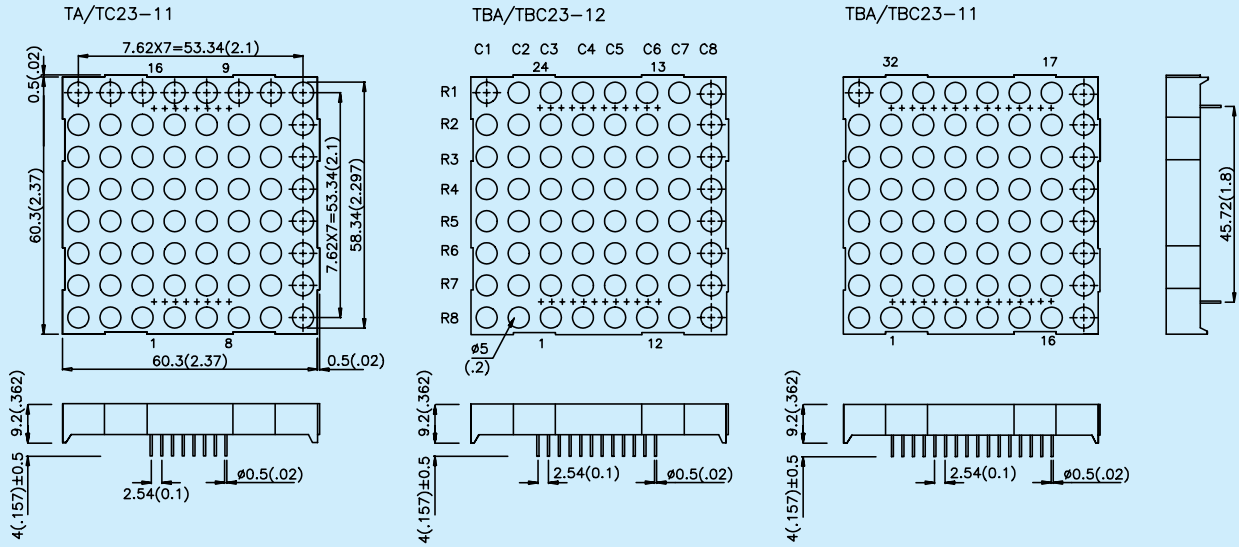
NOTES:
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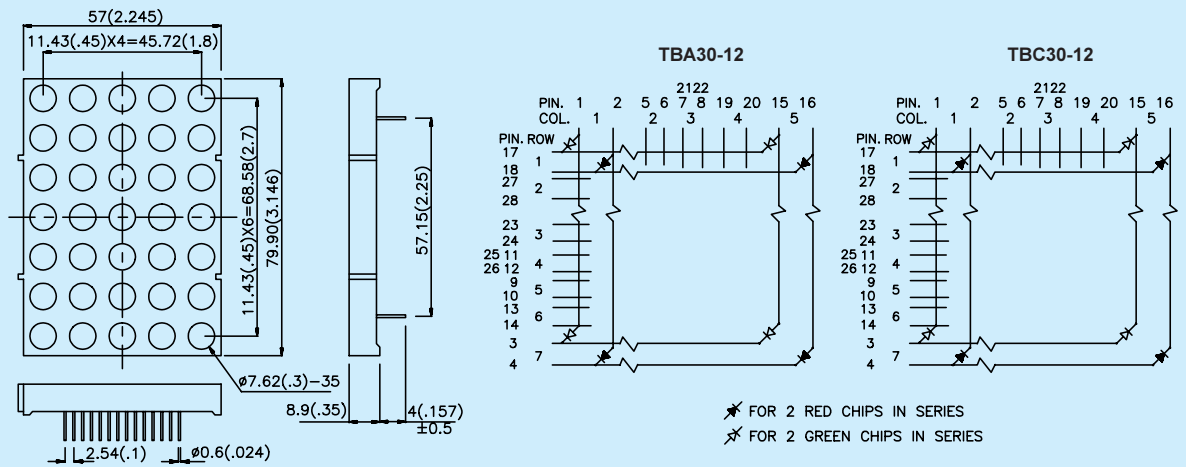
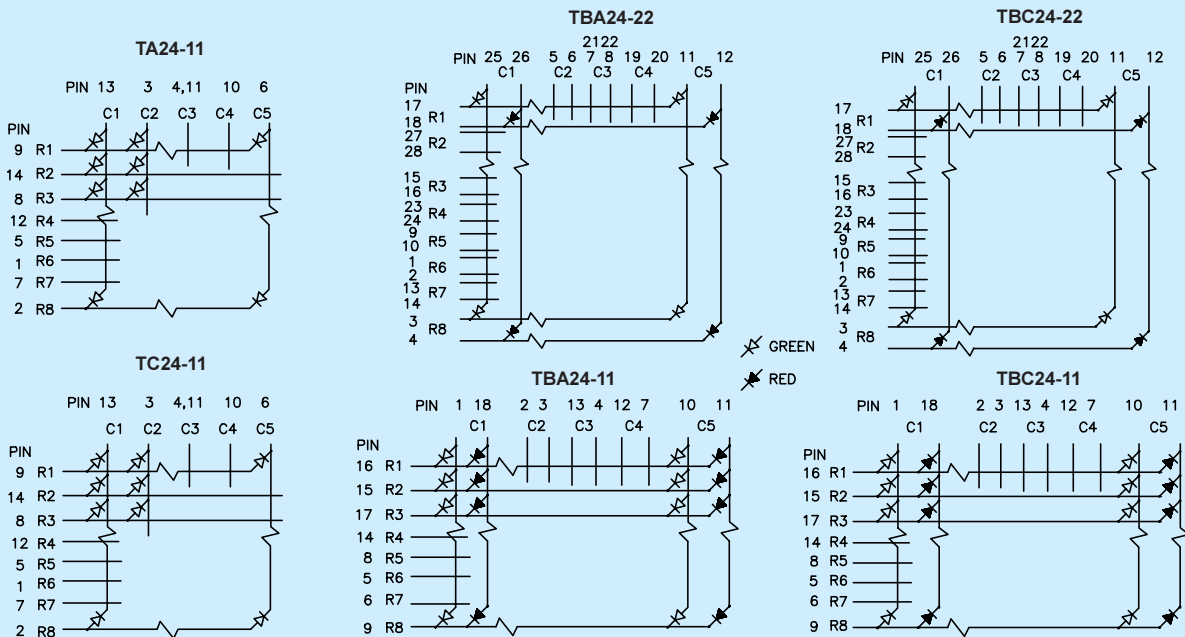
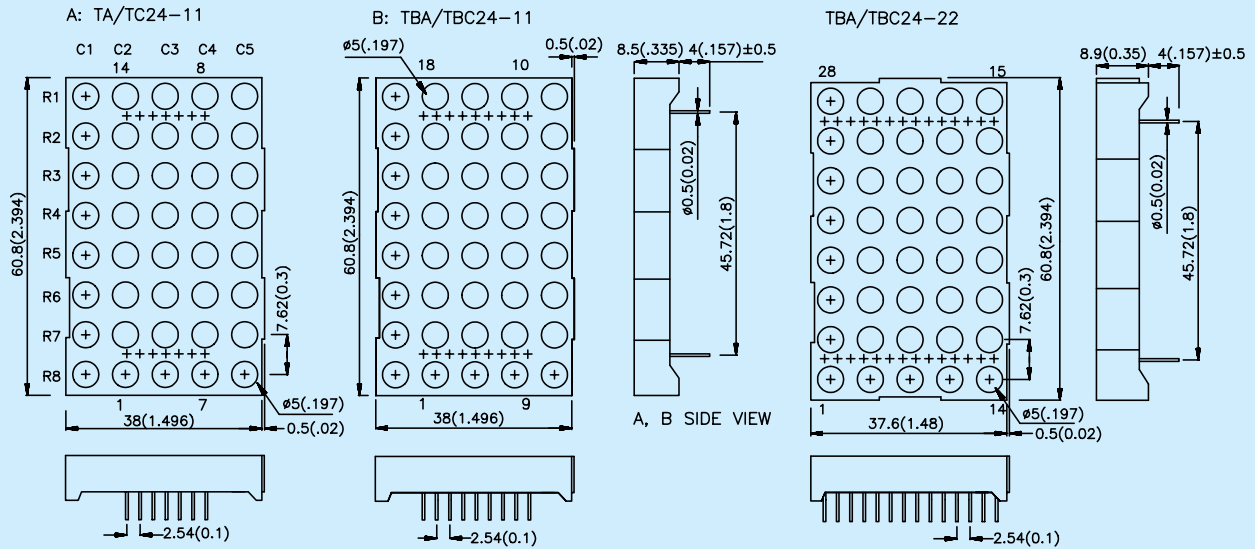


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 1. All dimensions are in millimeters(inches).
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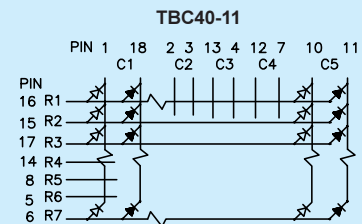
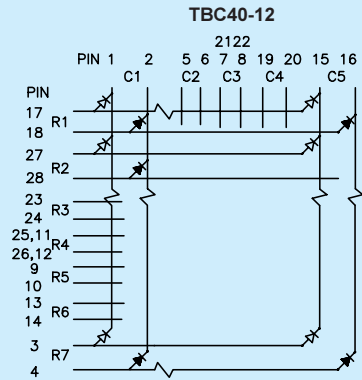
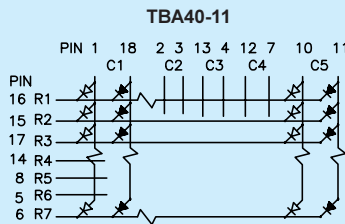
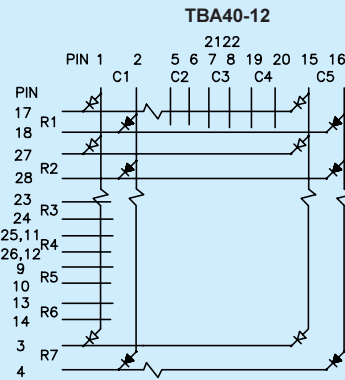
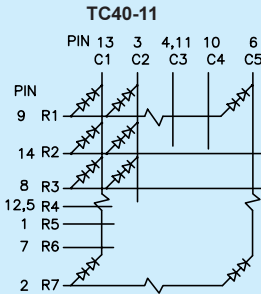
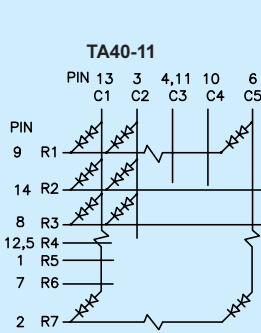
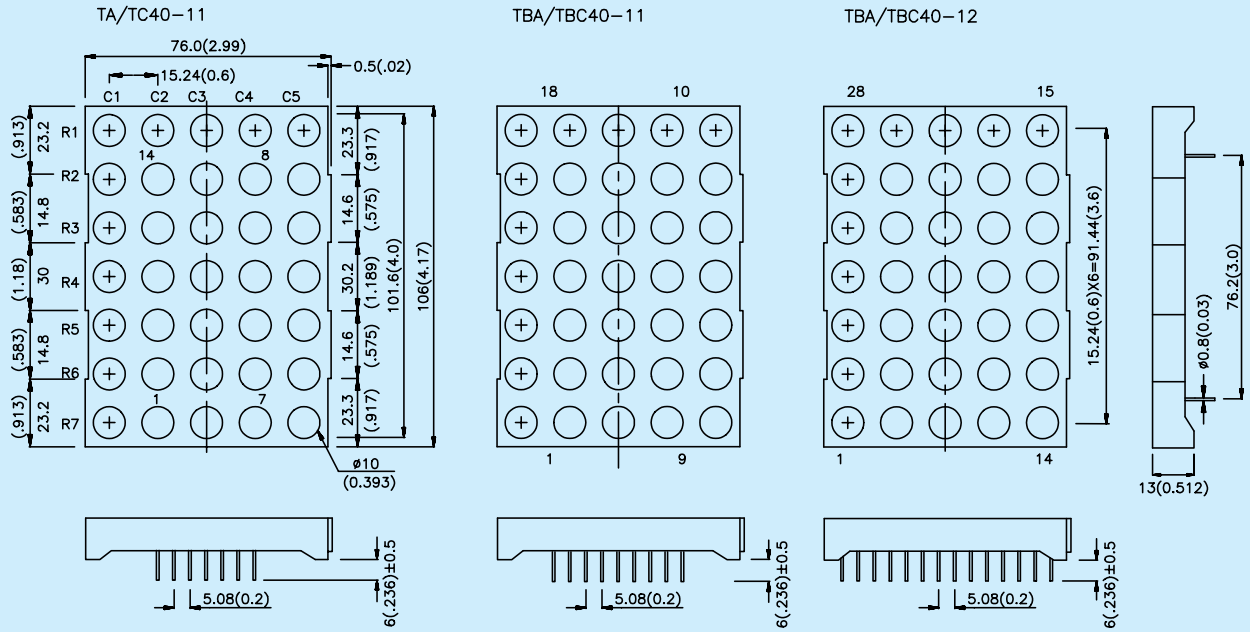


✕ GREEN
✕ RED

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1. All dimensions are in millimeters(inches).
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 2. Tolerance is $\pm 0.25\text{mm}(0.01\text{'})$ unless otherwise noted.



✕ FOR 2 RED CHIPS

✕ FOR 2 GREEN CHIPS

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 2. Tolerance is ±0.25mm(0.01") unless otherwise noted.