

LL-U48W3C-W2-1D-4

DATA SHEET

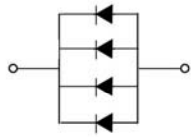
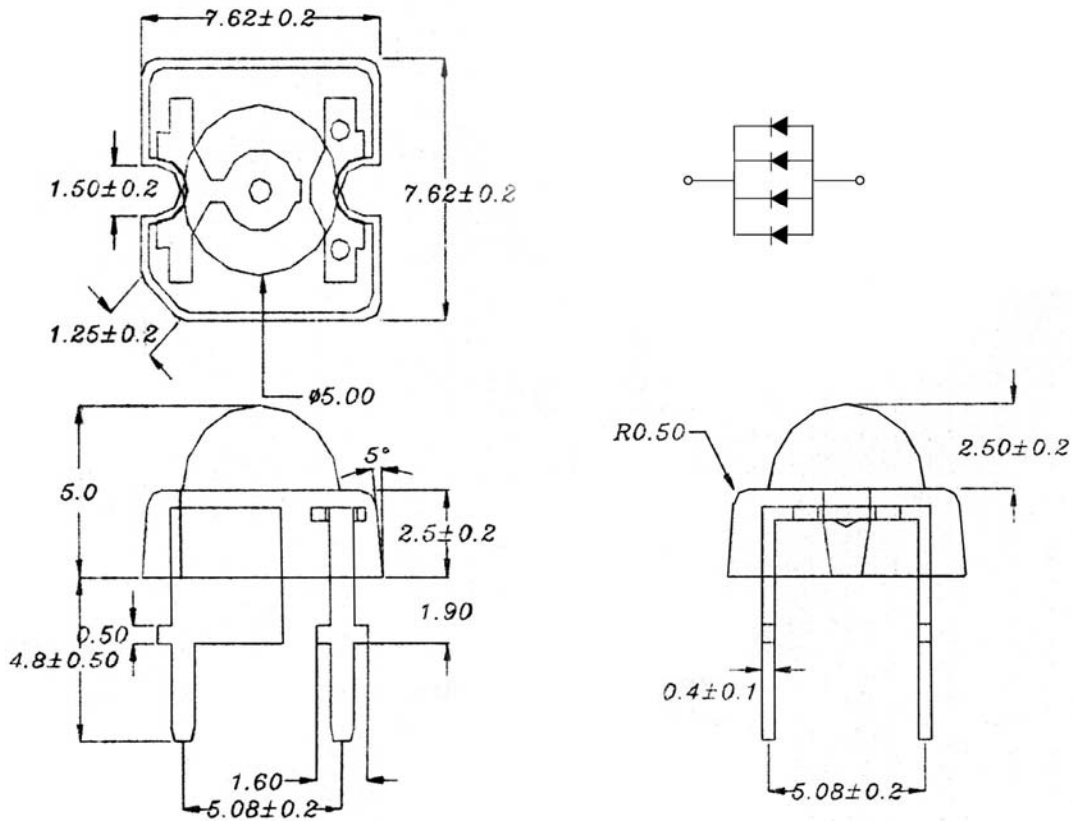
QC:Li

ENG:Liu

Prepared By: Wu

Features:

- Super flux output
- Design for high current operation
- Out standing material efficiency
- Reliable and rugged

Package Dimension:


Part NO.	Lens Color	Source Color
LL-U48W3C-W2-1D-4	Water Clear	White

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 (.010") mm unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.
5. Caution in ESD:

Static Electricity and surge damages the LED. It is recommend to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.

Absolute Maximum Ratings at Ta=25°C

Parameter	MAX.	Unit
Power Dissipation	400	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100	mA
Continuous Forward Current	80	mA
Derating Linear From 50°C	0.4	mA/°C
Reverse Voltage	10	V
Operating Temperature Range	-20°C to +80°C	
Storage Temperature Range	-40°C to +100°C	
Lead Soldering Temperature [4mm(.157") From Body]	260°C for 5 Seconds	

Electrical Optical Characteristics at Ta=25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I _v	5.00	5.50	6.0	lm	I _F =80mA (Note 1)
Viewing Angle	2θ _{1/2}	---	50	---	Deg	(Note 2)
$x = \frac{X}{X+Y+Z} = \frac{Red}{Red+Green+Blue}$	x	0.27	0.29	0.31	---	I _F =80mA (Note 3)
$y = \frac{Y}{X+Y+Z} = \frac{Green}{Red+Green+Blue}$	y	0.27	0.29	0.21	---	I _F =80mA (Note 3)
Forward Voltage	V _F	3.0	3.3	3.6	V	I _F =80mA
Reverse Current	I _R	---	---	10	μA	V _R =5V

Note:

- Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
- θ_{1/2} is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- It use many parameters that correspond to the CIE 1931 2°. X,Y, and Z are CIE 1931 2° values of Red, Green and Blue content of the measurement.

Reliability

Test items and Results

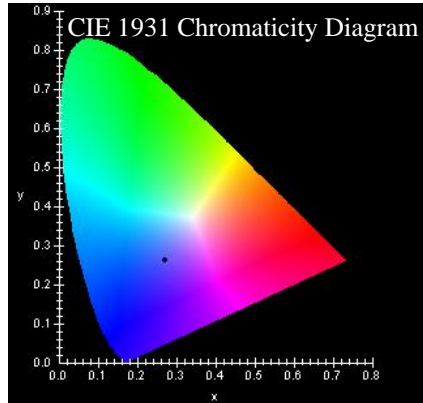
Type	Test Item	REF.Standard	Test Condition	Note	Number of Damaged
Environmental Sequence	Temperature Cycle	JIS C 7021 (1977)A-4	-40°C→25°C→100°C→25°C 30mins,5mins,30mins,5mins	100cycles	0/100
	Thermal Shock	MIL-STD-107D	-40°C→100°C 15mins,15mins	100cycles	0/100
	High Humidity Heat Cycle	JIS C 7021 (1977)A-5	30°C→65°C 90% RH 24hrs/1 cycle	10cycles	0/100
	High Temperature Storage	JIS C 7021 (1977)B-10	Ta=100°C	1000hrs	0/100
	Humidity Heat Storage	JIS C 7021 (1977)B-11	Ta=60°C RH90%	1000hrs	0/100
	Low Temperature Life Test	JIS C 7021 (1977)B-12	Ta=40°C	1000hrs	0/100
Operation Sequence	Life Test	JIS C 7035 (1985)	Ta=60°C If=20mA	1000hrs	0/100
	High Humidity Heat Life Test	---	60°C RH=90% If=20mA	500hrs	0/100
	Low Temperature Life Test	---	Ta=-30°C If=20mA	1000hrs	0/100
Destructive Sequence	Resistance to Soldering Heat	JIS C 7021 (1977)A-11	Tsol=260±5°C 10sec (3mm from the base of the epoxy bulb)	1 time	0/20
	Solder ability	JIS C 7021 (1977)A-2	Tsol=235±5°C 5sec (using flux)	1 time (over 95%)	0/20
	Lead Pull/Bend Test	JIS C 7021 (1977)A-11	Load 2.5N(0.25kgf) 0°→90°→0° bend 3 times	No noticeable damage	0/20

Refer to reliability test standard specification for in this line.

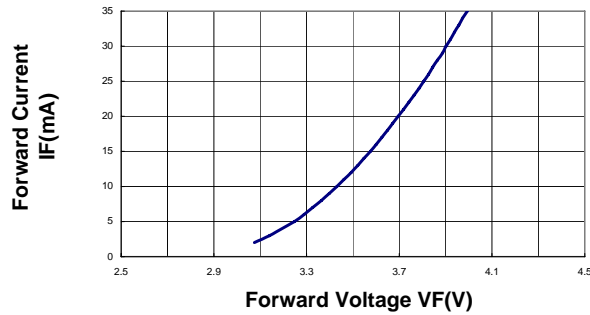
Criteria for Judging The Damage

Item	Symbol	Test Condition	Criteria For Judgment	
			Min.	Max
Forward Voltage	Vf	If=20mA	---	Initial Data x 1.1
Reverse Current	Ir	Vr=5V	---	Initial Data x 2.0
Luminous Intensity	Iv	If=20mA	Initial Data x 0.7	---

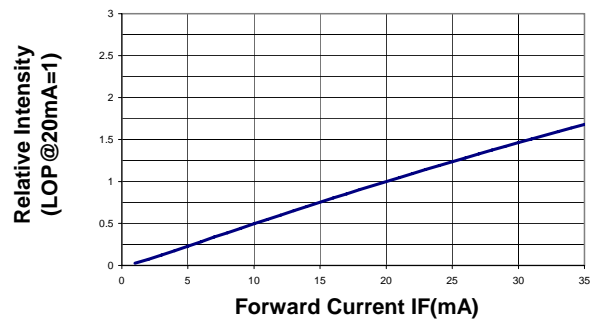
Typical Electrical / Optical Characteristics Curves
 (25°C Ambient Temperature Unless Otherwise Noted)



Forward Current vs Forward Voltage



Relative Luminous Intensity vs Forward Current



Beam Pattern

