

**NAIS****HIGHLY RELIABLE  
MINIATURE  
DIP RELAYS****DR-SDS relay**

**UL File No.:** E48393  
**CSA File No.:** LR45064-2

- High breakdown (1500 V) and surge (1500 V) voltage between contacts and coil
- 1 coil and 2 coil latching types available
- High sensitivity
- High contact pressure

## Specifications

### Contacts

Arrangement	1 Form C
Contact material	PdNi Au layer
Initial contact resistance, (max.) (Measured by voltage drop 6 V DC 1 A)	100 mΩ
<b>Rating (resistive)</b>	
Max. switching power	33 VA, 20 W
Max. switching voltage	110 V AC / 30 V DC
Max. switching current	0.3 AC / 1 A DC
Min. switching capacity	10 mV / 0.1 mA
Electrical life (6 V / 100 mA)	10 <sup>8</sup>
(24 V / 1 A)	10 <sup>7</sup>
(0.3 A / 110 V AC)	10 <sup>6</sup>
Mechanical life	10 <sup>9</sup>

### Coil

Nominal / minimum		
monostable	5 – 24 V DC	65 ... 130 mW
1 coil latching	5 – 24 V DC	35 ... 100 mW
2 coil latching	5 – 24 V DC	80 ... 200 mW

### Characteristics

Max. operating speed	100 cpm (mechanical)
Operate time	approx. 2 ms
Release time (w/o diode)	approx. 0.6 ms
Contact bounce	1 ms
Initial breakdown voltage	
Between open contacts	750 Vrms
Between contacts and coil	1500 Vrms
Between live parts and ground	1000 Vrms
Initial insulation resistance	min. 1000 MΩ at 500 V DC
Surge voltage between contacts and coil (1.2/50μs)	1500
Ambient temperature	-40 °C to +70 °C
Shock resistance	more than 100 g
Vibration resistance	40 g, 10 to 200 Hz
Unit weight	approx. 6 g

Note: All specifications are based on the condition 25°C, 50% R.H. unless otherwise noted.

## TYPICAL APPLICATIONS

- Telecommunications equipment
- Machine tools
- Industrial robots
- Optical instruments
- Business machines
- Optical instruments
- Medical equipment
- Detectors
- Alarm devices

## ORDERING INFORMATION

Ex. DR — L2 — 24V — SDS

Operating function	Coil voltage*
Nil: Single side stable L: 1 coil latching L2: 2 coil latching	5, 12, 24

\* other coil voltages on request

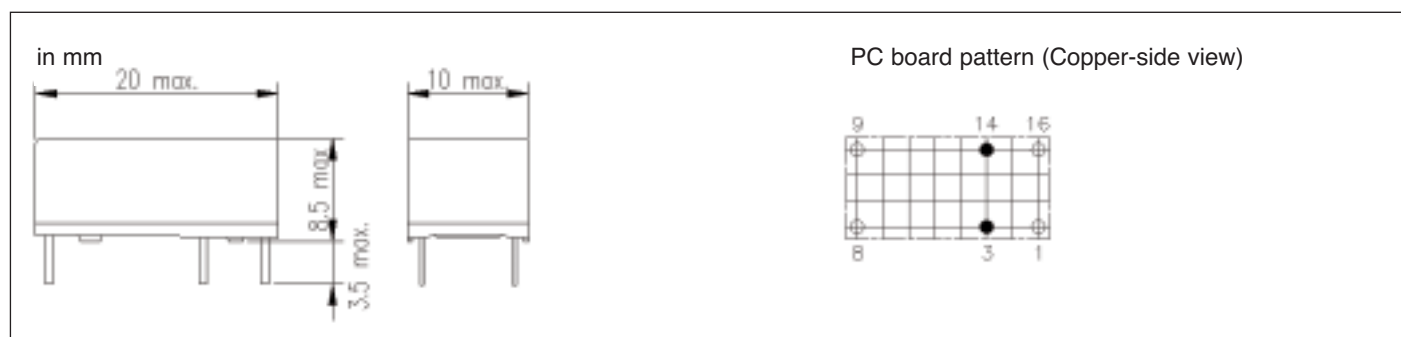
## TYPES AND COIL DATA

Single side stable	Pick-up voltage, V DC (max.)	Drop-out voltage V DC (min.)	Maximum allowable voltage, V DC	Coil resistance $\Omega$ ( $\pm 15\%$ )	Nominal operating power, mW
DR-5V	3.75	0.5	16.5	320	78
DR-12V	9	1.2	30	1140	126
DR-24V	18	4.8	60	4370	131

1 coil latching	Pick-up voltage, V DC (max.)	Maximum allowable voltage, V DC	Coil resistance $\Omega$ ( $\pm 15\%$ )	Nominal operating power, mW
DR-L-5V	3.75	20	500	50
DR-L-12V	9	38	1850	78
DR-L-24V	18	67	5650	102

2 coil latching	Pick-up voltage, V DC (max.)	Maximum allowable voltage, V DC	Coil resistance $\Omega$ ( $\pm 15\%$ )	Nominal operating power, mW
DR-L2-5V	3.75	16	315	80
DR-L2-12V	9	30	1110	130
DR-L2-24V	18	46	2800	206

## DIMENSIONS



## Schematic (Bottom view)



## Matsushita Electric Works

NAIS

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