THE DATASHEET OF

OHD3-75B

OHD™ Thermal Guard

Overview

The OHD™ Thermal Guard is developed for thermal problem countermeasures and safety standard conformity, which are becoming increasingly important for electronic devices in recent years.

Applications

Typical applications include atmospheric temperature detection and overheating monitoring of power transistors, power modules, room heaters, hot gas heaters, PPCs, amplifiers, motors, HDDs, FDDs and other general appliances.

Benefits

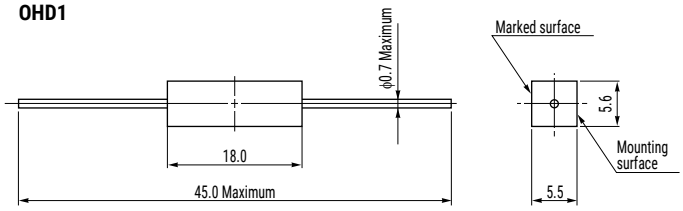
- Extremely simple circuit design
- High reliability for on/off operations
- Compatibility with extremely low (0.1 mW or lower) signals to high power (6 W) levels
- Compact, light and easy to handle
- Dust, explosion and corrosion-proof
- High-speed response
- Wide range of operating temperatures available in 5°C increments from +30°C to +120°C

Ordering Information

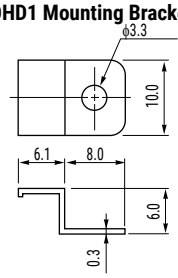
OHD	1-	40			B
Series	Model Number	Operating Temperature (°C)			Contact Type
OHD	1 3 5R	30 35 40 45 50 55 60	65 70 75 80 85 90	95 100 105 110 115 120	B = Break M = Make (OHD1 and OHD3 Series only)

Dimensions in mm

OHD1

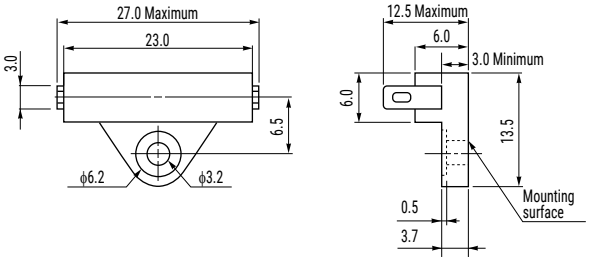


OHD1 Mounting Bracket

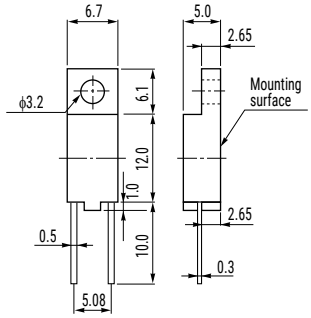


**Mounting brackets exclusively for the OHD1 type are provided optionally (at separate cost).*

OHD3



OHD5R



Environmental Compliance

All OHD sensors are RoHS compliant.

Insulation & Temperature Characteristics

Series	Insulation Withstand Voltage[1]	Minimum Insulation Resistance[1]	Operating Temperature Range (°C)	Differential Temperature (°C)[2]
OHD1	2,500 VAC/1 minute or 3,000 VAC/1 second	500 VDC to 100 MΩ	30 – 120	10 Maximum
OHD3				
OHD5R	1,500 VAC /1 minute or 1,800 VAC /1 second		60 – 120	

[1] Between terminals and mounting resin surface.

[2] The differential temperature is also referred to as the hysteresis temperature on thermal sensors.

Table 1 – Ratings & Part Number Reference

Part Number	Operating Temperature (°C)	Contact Type	Maximum Opening/ Closing Voltage (V)	Maximum Opening/ Closing Current (A)	Maximum Opening/ Closing Power (W)	Minimum Opening/ Closing Current	Maximum Contact Resistance (mΩ)
OHD1-40M	40	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-45M	45	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-50M	50	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-55M	55	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-60M	60	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-65M	65	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-70M	70	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-75M	75	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-80M	80	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-85M	85	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-90M	90	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-95M	95	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-100M	100	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-105M	105	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-110M	110	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-115M	115	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-120M	120	Make	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-30B	30	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-35B	35	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-40B	40	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-45B	45	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-50B	50	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-55B	55	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-60B	60	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-65B	65	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-70B	70	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-75B	75	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-80B	80	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-85B	85	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-90B	90	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-95B	95	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-100B	100	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-105B	105	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-110B	110	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-115B	115	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD1-120B	120	Break	110 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-40M	40	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-45M	45	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-50M	50	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-55M	55	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-60M	60	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-65M	65	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-70M	70	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-75M	75	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-80M	80	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-85M	85	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-90M	90	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-95M	95	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-100M	100	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-105M	105	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-110M	110	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-115M	115	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-120M	120	Make	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-30B	30	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-35B	35	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-40B	40	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-45B	45	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-50B	50	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
Part Number	Operating Temperature (°C)	Contact Type	Maximum Opening/Closing Voltage (V)	Maximum Opening/Closing Current (A)	Maximum Opening/Closing Power (W)	Minimum Opening/Closing Current	Maximum Contact Resistance (mΩ)

Table 1 – Ratings & Part Number Reference cont'd

Part Number	Operating Temperature (°C)	Contact Type	Maximum Opening/ Closing Voltage (V)	Maximum Opening/ Closing Current (A)	Maximum Opening/ Closing Power (W)	Minimum Opening/ Closing Current	Maximum Contact Resistance (mΩ)
OHD3-55B	55	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-60B	60	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-65B	65	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-70B	70	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-75B	75	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-80B	80	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-85B	85	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-90B	90	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-95B	95	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-100B	100	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-105B	105	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-110B	110	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-115B	115	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD3-120B	120	Break	100 AC/DC	0.3 AC/DC	6 AC/DC	0.1 mA/1 VDC	150
OHD5R-60B	60	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
OHD5R-65B	65	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
OHD5R-70B	70	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
OHD5R-75B	75	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
OHD5R-80B	80	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
OHD5R-85B	85	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
OHD5R-90B	90	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
OHD5R-95B	95	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
OHD5R-100B	100	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
OHD5R-105B	105	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
OHD5R-110B	110	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
OHD5R-115B	115	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
OHD5R-120B	120	Break	30 DC	0.1 DC	1 DC	0.1 mA/1 VDC	300
Part Number	Operating Temperature (°C)	Contact Type	Maximum Opening/Closing Voltage (V)	Maximum Opening/Closing Current (A)	Maximum Opening/Closing Power (W)	Minimum Opening/Closing Current	Maximum Contact Resistance (mΩ)

Precautions

Before Using Thermal Guard

- Please read specifications and check the content thoroughly before the actual use.
- Do NOT use product under mechanical weight load.
- Do NOT use with a greater load than specified.
- Do NOT use in close proximity to strong magnetic parts and avoid exposure to a magnetic field.
- Do NOT use if dropped or severely shocked.
- The OHD1 and OHD5R are designed for printed circuit board insertion. The OHD3 is a reed wire soldered type.

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