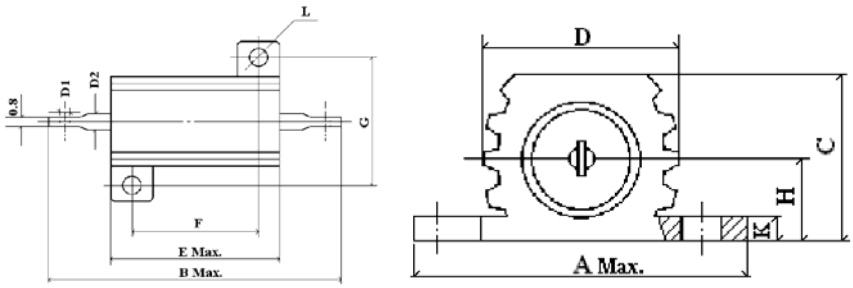
POWER DISSIPATION MOUNT FIXED RESISTOR

Features

- Low inductance
- Safety flameproof construction
- Thin & lightweight body saves the PCB space considerably
- Automatically insertable

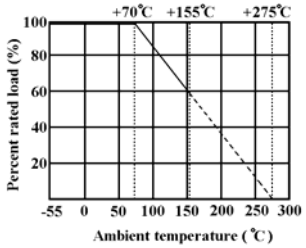
Dimension:



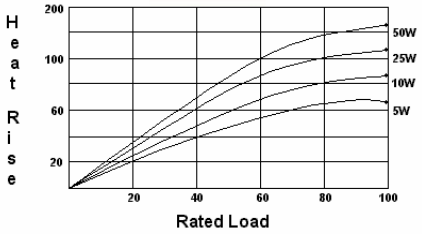
Style	Dimension (mm)											
	A Max.	B Max.	C	D	E Max.	F ± 0.2	G	H ± 1	K Max.	L	D1	D2
PDM 5W	16	30.2	8 +0.1/0	8	15.5	11	12	4.4	1.5	2.2	1.5	1.5
PDM 10W	21	36.5	10 +0.1/0	11	20	14	16	5	2	2.5	1.5	2
PDM 25W	27	51	14 +0.1/0	14	28	18	20	7	2.3	3.5	2	2
PDM 50W	29	73	15.5 0/-0.1	16.5	50	40	21.5	7.3	2.3	3.5	2	2

Style	Power rating at 70°C	Resistance Range (5%)
PDM 5W	5W	5.1Ω ~ 1KΩ
PDM 10W	10W	5.1Ω ~ 1.5KΩ
PDM 25W	25W	5.1Ω ~ 8.2KΩ
PDM 50W	50W	5.1Ω ~ 20KΩ

Derating Curve:



Heat Rise Chart:



LAUBE

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Performance Specifications:

<table>
<tr><th>Characteristics</th><th>Test Methods</th><th>Limits</th></tr>
<tr><td>Temperature coefficient
JIS – C – 5202 5.2</td><td>Natural resistance change per temp. degree centigrade
$\frac{R_2 - R_1}{R_1(t_2-t_1)} \times 10^6$ (PPM / °C)
R_1 : Resistance value at room temperature (t_1)
R_2 : Resistance value at room temp. plus 100°C (t_2)</td><td>≥ 20Ω ± 350PPM / °C
< 20Ω ± 400PPM / °C</td></tr>
<tr><td>Short – time overload
JIS – C – 5202 5.5</td><td>Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds.</td><td>Resistance change rate is
± (5% + 0.05Ω)
Max. with no evidence of mechanical damage</td></tr>
<tr><td>Dielectric withstanding voltage
JIS – C – 5202 5.7</td><td>Resistors shall be clamped in the trough of a 90 ° metallic V- block and shall be tested at AC potential respectively for 60 + 10 / -0 seconds.</td><td>No evidence of flashover mechanical damage, arcing or insulation break down.</td></tr>
<tr><td>Terminal Strength
JIS – C – 5202 6.1</td><td>Direct Load:
Resistance to a 2.5 kg. direct load for 10 seconds in the Direction of the longitudinal axis of the terminal leads.
Twist Test:
Terminal leads shall be bent through 90° at a point of about 6mm from the body of the resistor and shall be rotated through 360° about the original axis of the bent terminal in alternating direction for a total 3 rotations.</td><td>No evidence of mechanical damage</td></tr>
<tr><td>Resistance to Soldering Heat
JIS – C – 5202 6.4</td><td>Permanent resistance change when leads immersed to 3.2 mm to 4.8 mm from the body in 350°C ± 10°C solder for 3 ± 0.5 seconds</td><td>Resistance change rate is ± (1%+0.05 Ω)
No evidence of mechanical damage.</td></tr>
<tr><td>Solderability
JIS – C – 5202 6.5</td><td>The area covered with a new, smooth, clean, shiny and continuous surface free from concentrated pinholes.
Test temp. of solder: 235°C ± 5°C
Dwell time in solder: 3 +0.5/ -0 seconds</td><td>95% coverage Min.</td></tr>
<tr><td>Temperature cycling
JIS – C – 5202 7.4</td><td>Resistance change after continuous five cycles for duty cycle specified below:
<table>
<tr><th>Step</th><th>Temperature</th><th>Time</th></tr>
<tr><td>1</td><td>-55℃±3℃</td><td>30 mins.</td></tr>
<tr><td>2</td><td>Room temp.</td><td>10 – 15 mins.</td></tr>
<tr><td>3</td><td>+155 ℃±2 ℃</td><td>30 mins.</td></tr>
<tr><td>4</td><td>Room temp.</td><td>10 – 15 mins.</td></tr>
</table></td><td>Resistance change rate is ± (5%+0.05 Ω)
No evidence of mechanical damage.</td></tr>
<tr><td>Load life in humidity
JIS - C - 5202 7.9</td><td>Resistance change after 1,000 hours operating at RCWV with duty cycle of (1.5 hours “on”, 0.5 hour “off”) in a humidity test chamber controlled at 40°C ± 2°C and 90 to 95% relative humidity.</td><td>
<table>
<tr><th>Resistance value</th><th>ΔR/R</th></tr>
<tr><td>Wire-wound</td><td>±5%</td></tr>
<tr><td>Power film: less than 100KΩ
100KΩ or more</td><td>±5%
±10%</td></tr>
</table></td></tr>
<tr><td>Load life
JIS - C - 5202 7.10</td><td>Permanent resistance change after 1,000 hours operating at RCWV with duty cycle of (1.5 hours “on”, 0.5 hour “off”) at 70°C ± 2°C ambient.</td><td>
<table>
<tr><th>Resistance value</th><th>ΔR/R</th></tr>
<tr><td>Wire-wound</td><td>±5%</td></tr>
<tr><td>Power film: less than 100KΩ
100KΩ or more</td><td>±5%
±10%</td></tr>
</table></td></tr>
</table>

* RCWV = Rated Continuous Working Voltage = $\sqrt{\text{Rated Power x Resistance Value}}$