

Features:

- Small in dimension
- Wide resistance and high ohmic value range
- Metal glaze resistor elements provide high stable performance against environmental conditions and overload
- Excellent in absorption of electric shock (Pulse, surge voltage)

Explanation of Part Numbers:

HMG	25G	106	J	T	XX
1	2	3	4	5	6

1 Style:

HMG = Metal Glaze Film Fixed Resistors

2 Wattage:

08 = 1/8 watt 25 = 1/4 watt 50 = 1/2 watt
 100 = 1 watt 200 = 2 watt

3 Nominal Resistance Value:

E24 Series (5% Tolerance)

The first two digits are significant figures of resistance and the third digit denotes the number of zeros (decimal point is expressed by the letter "R").

i.e. 102 = 1k
 1R2 = 1.2

E96 Series (1% Tolerance)

The first three digits are significant figures of resistance and the fourth digit denotes the number of zeros.

i.e. 1001 = 1k
 10R0 = 10

4 Tolerance:

F = ± 1% J = ± 5%
 G = ± 2% K = ± 10%

5 Packaging:

T = Tape and Reel B = Bulk
 TB = Tape & Box

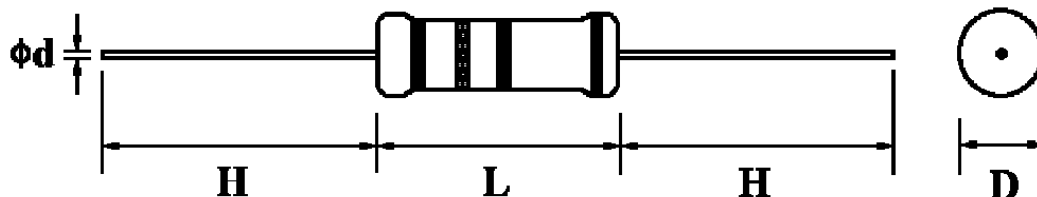
6 Lead Forming:

PN = Panasert Type PA1 = Avisert Type 1

PA2 = Avisert Type 2 PA3 = Avisert Type 3

* For all other requests, please consult factory.

General Specification and Dimensions:





Metal Glaze Resistors

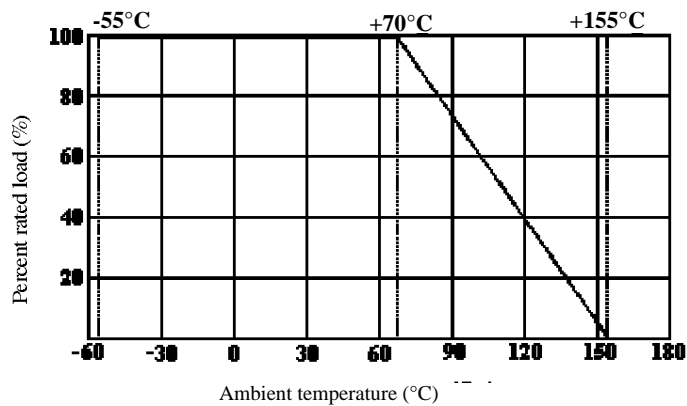
Dimension:

Style	Power Rating at 70°C	Dimension (mm)			
		D Max.	L Max.	d ^{+0.02} / _{-0.05}	H±3
HMG08	0.125W	1.7	3.3	0.5	28
HMG 25	0.25 W	2.7	7.0	0.6	28
HMG 50	0.5	3.8	10.0	0.6	28
HMG 100	1W	5.2	13.0	0.7	28
HMG 200	2W	6.0	17.0	0.8	28

Rating:

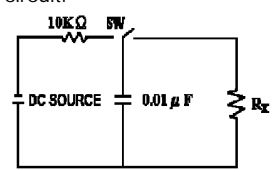
Style	Max. Working Voltage	Max. Overload Voltage	Dielectric Withstanding Voltage	Surge Withstanding Voltage			Resistance Range
				1M	1.1M -6.2M	6.8M	
HMG08	300V	500V	1000V	2000V	3000V	5000V	100K ~ 1000M
HMG25	500V	700V	500V	3000V	4000V	6000V	100K ~ 1000M
HMG50	1000V	1000V	700V	4000V	5000V	8000V	100K -1000M
HMG100	1000V	1400V	1000V	5000V	6000V	9000V	100K -1000M
HMG200	1000V	1400V	1000V	8000V	9000V	10000V	100K -1000M

Derating Curve:





Performance Specifications

Characteristics	Test Methods	Limits																				
Temperature coefficient JIS - C - 5202 5.2	Natural resistance change per temp. degree centigrade. $\frac{R_2 - R_1}{R_1 (t_2 - t_1)} \times 10^6 \text{ (PPM / } ^\circ\text{C)}$ R ₁ : Resistance value at room temperature (t ₁) R ₂ : Resistance value at room temp. plus 100 °C (t ₂)	± 200 PPM / °C																				
Short - time overload JIS - C - 5202 5.7	Permanent resistance change after the application of a potential 2.5 times RCWV or the max. overload voltage respectively specified in the above list, whichever less for 5 seconds.	Resistance change rate is ± (1% + 0.05 %) Max. with no evidence of mechanical damage.																				
Dielectric withstanding voltage JIS - C - 5202 5.7	Resistors shall be clamped in the trough of a 90° metallic V- block and shall be tested at AC potential respectively specified in the above list for 60+ 10 / -0 seconds.	No evidence of flashover, mechanical damage, arcing or insulation break down																				
Temperature cycling JIS - C - 5202 7.4	Resistance change after continuous five cycles for duty cycle specified below:	Resistance change rate is ± (1% + 0.05 %) with no evidence of mechanical damage.																				
	<table border="1"> <thead> <tr> <th>Step</th> <th>Temperature</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-55°C ± 3°C</td> <td>30 minutes</td> </tr> <tr> <td>2</td> <td>Room temp</td> <td>10~15 minutes</td> </tr> <tr> <td>3</td> <td>+ 155°C ± 3°C</td> <td>30 minutes</td> </tr> <tr> <td>4</td> <td>Room temp</td> <td>10~15 minutes</td> </tr> </tbody> </table>		Step	Temperature	Time	1	-55°C ± 3°C	30 minutes	2	Room temp	10~15 minutes	3	+ 155°C ± 3°C	30 minutes	4	Room temp	10~15 minutes					
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Load life in humidity JIS - C - 5202 7.9	Resistance change after 1,000 hours (1.5 hours "on" 0.5 hour "off") at RCWV in a humidity chamber controlled at 4-°C ± 2°C and 90 to 95% relative humidity.	Resistance change rate is ± (1% + 0.05 %) with no evidence of mechanical damage.																				
Load life JIS - C - 5202 7.10	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.	Resistance change rate is ± (1% + 0.05 %) with no evidence of mechanical damage.																				
Terminal strength JIS - C - 5202 6.1	Direct load : Resistance to a 2.5 kgs 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 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 of 3 rotations.	No evidence of mechanical damage																				
Resistance to soldering heat JIS - C - 5202 6.4	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	Resistance change rate is ± (1% + 0.05 %) with no evidence of mechanical damage.																				
Solderability JIS - C - 5202 6.5	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	95% coverage Min.																				
Surge Withstanding Voltage	The following discharge cycle is repeated in the circuit in the right fig. 2.5 sec. ON, 2.5 sec OFF, 10 cycles applied voltage (DC Source)	Allowable resistance change ± 10%. Test circuit: 																				
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*RCWV = Rated Continuous Working Voltage = $\sqrt{\text{Rated Power} \times \text{Resistance Value}}$