

Metal Glazed Film Fixed Resistors

Performance Specification

Temperature Coefficient	≤ ±200PPM/°C
Short Time Overload	±(1.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Insulation Resistance	Min. 10,000 Mega Ohm
Dielectric Withstanding Voltage	No evidence of flashover, mechanical damage, arcing or insulation breakdown.
Pulse Overload	±(2.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Terminal Strength	No evidence of mechanical damage.
Resistance to Soldering Heat	±(1.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Solderability	Min. 95% coverage.
Resistance to Solvent	No deterioration of protective coating and markings.
Temperature Cycling	±(1.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Humidity (Steady State)	±(2.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Load Life in Humidity	±(5.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Load Life	±(5.0% + 0.05Ω)Max, with no evidence of mechanical damage.
Surge Withstanding Voltage	±(2.0% + 0.05Ω)Max, with no evidence of mechanical damage.

Ordering Procedure: Ex.: MGR 1W, +/-5%, 470KΩ, T/B-1000, Non-Flame

M G R F 1 W J 0 4 7 4 A 1 0

<p>Type: MGR = Metal Glaze Film</p>					<p>Resistance Value:</p> <ul style="list-style-type: none"> E-24 series: 1st digit is "0" 2nd & 3rd digits are the significant figures of the resistance 4th indicates the number of zeros: "J" ~ 0.1, "K" ~ 0.01 Ex.: 4.7Ω ~ 47J, 4.7KΩ ~ 472 E-96 series: 1st to 3rd digits are the significant figures of the resistance and the 4th digit indicates the number of zeros. Ex.: 1.33KΩ = 1331 			
<p>Feature: 0 = UL epoxy for 1/4W only F = UL Non-Flame for 1/2W, 1W, 2W</p>								
	<p>Wattage: W4 = 1/4W (UL Epoxy Paint) Only W2 = 1/2W (UL Non-Flame Paint) 1W = 1W (UL Non-Flame Paint) 2W = 2W (UL Non-Flame Paint)</p>							
			<p>Tolerance: F = ±1% G = ±2% J = ±5%</p>			<p>Packing Type: A = Tape/Box T = Tape/Reel B = Bulk/Box P = Tape/Box of PT-26mm</p>		
						<p>Packing Qty: 1 = 1,000 pcs. 4 = 4,000 pcs. 5 = 5,000 pcs. A = 500 pcs. B = 2,500 pcs. 0 = Bulk/Box</p>		
							<p>Additional Information: 0 = PT-52mm, PT-26mm 8 = PT-58mm 9 = PT-64mm</p>	



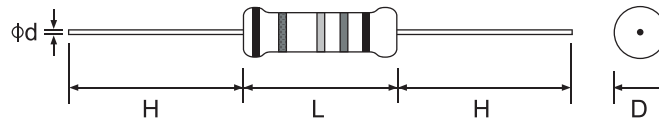
Metal Glazed Film Fixed Resistors

Features

- Small in dimension and broad range in high resistance
- Metal glaze resistor elements provide high stable performance against environmental conditions and overload
- Excellent in absorption of electric shock (Pulse, Surge Voltage)
- Approved to IEC 60065 safety requirements (VDE)
(For 1/2W: 1M ~ 33M, 1W and 2W: 100K ~ 33M)
- Recognized by UL 1676 for 1/2W, 1W and 2W normal size resistance value 960K ~ 12M



Standard: 2%, 5% 10%---E 24 series
1%---E 96 series



Part No.	Style	Power Rating at 70°C	Dimension (mm)					Std Packing Qty
			D Max	L Max	d±0.05	H±3	PT	
MGR0W4	MGR 25	1/4W (0.25W)	2.7	7.0	0.60	28	52	4,000
MGRFW2	MGR 50	1/2W (0.50W)	3.8	10.0	0.60	28	52	1,000
MGRF1W	MGR 100	1W	5.2	13.0	0.75	25	52	1,000
MGRF2W	MGR 200	2W	6.0	17.0	0.75	28	64	500

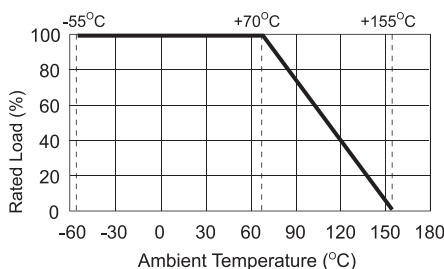
Surge Characteristics

Style	Max Working Voltage	Max Overload Voltage	Dielectric Withstanding Voltage	Surge Withstanding Voltage	Resistance Range
MGR-25	1,600V	2,000V	700V	100K ~ 33M: 3,000V	±1%: 100KΩ ~ 1MΩ ±5%: 1KΩ ~ 33MΩ
MGR-50	3,500V	4,000V	700V	100K ~ 360K: 5,000V 361K ~ 1M: 7,000V 1.1M ~ 33M: 10,000V	±1%: 100KΩ ~ 1MΩ ±5%: 1KΩ ~ 33MΩ
MGR-100	3,500V	4,000V	1,000V	100K ~ 33M: 10,000V	±1%: 100KΩ ~ 1MΩ ±5%: 1KΩ ~ 33MΩ
MGR-200	3,500V	4,000V	1,000V	100K ~ 33M: 10,000V	±1%: 100KΩ ~ 1MΩ ±5%: 1KΩ ~ 33MΩ

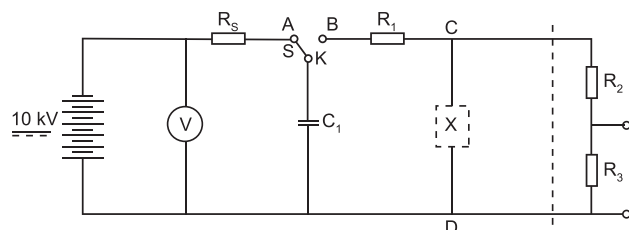
Surge Withstanding Voltage: IEC 60065

1. Discharge test: 3KV ~ <10KV, 0.01 μ F capacitor discharge pulse, 10 times (1 pulse: 2.5 sec "ON", 2.5 sec "OFF")
2. Discharge test: \geq 10KV, 0.001 μ F (1nF) capacitor discharge pulse, 50 times (1 pulse: 2.5 sec "ON", 2.5 sec "OFF")

Derating Curve



Surge Test - Test Circuit



Note: C1 = 0.01 μ F <10,000V C1 = 0.001 μ F (1nF) 10,000V
R₁ = 1KΩ R₂ = 100MΩ R₃ = 0.1MΩ R₃ = 15MΩ