

Metal Glaze Resistor

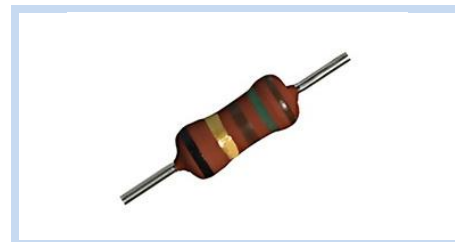
High Voltage Axial Leded Type

MGV Series

MERITEK

FEATURE

- Power Rating: 1/4W~3W
- High Pulse Loading Capability
- Resistant to Heat, Humidity and Solvents
- Metal Glaze Element for Excellent Stable Performance and Reliability
- Applications: Medical Electronics, Telecom, Measuring and Calibration Equipment, White Goods

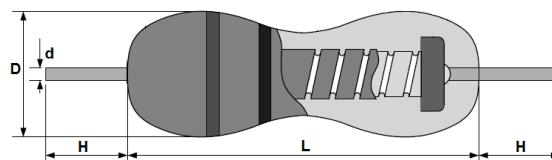


ELECTRICAL CHARACTERISTICS

Power Rating, 70°C		Max Working Voltage		Max Overload Voltage		Dielectric Withstanding Voltage (VDC)	TCR (PPM/°C)	Resistance Range (Ω)	Resistance Tolerance (%)
(W)	(Code)	(VDC)	(VAC)	(VDC)	(VAC)				
1/4W	25	1600	1150	2000	1500	400	100K≤R≤10M ±200 PPM/°C R>10M ±500 PPM/°C Special: ±50 PPM/°C ±100 PPM/°C	100K~500M	±5 (J) ±2 (G) ±1 (F)
1/2WS	50S	1700	--	2500	--	400			
1/2W	50	3500	--	4000	--	500			
1WS	1S	4000	--	4500	--	500			
1W	1W	4500	--	5000	--	500			
2WS	2S	5000	--	10000	--	500			
2W	2W	7000	--	14000	--	700			
3WS	3S	10000	--	14000	--	700			
3W	3W	12000	--	16000	--	1000			
5WS	5S	13000	--	18000	--	1000			

DIMENSIONS

Power Rating, 70°C		Dimension (mm)			
		L	D	H	d
1/4W	1/2WS	6.3±0.5	2.3±0.3	28±2.0	0.55±0.03
1/2W	1WS	9.0±0.5	3.2±0.5	26±2.0	0.65±0.03
1W	2WS	11.5±1.0	4.5±0.5	35±2.0	0.78±0.03
2W	3WS	15.5±1.0	5.0±0.5	32±2.0	0.78±0.03
3W	5WS	17.5±1.0	6.0±0.5	35±2.0	0.78±0.03



PART NUMBERING SYSTEM

MGV **5S** **K1** **5052** **F** **B**
(1) (2) (3) (4) (5) (6)

No.	Item	Code	Description
(1)	Product Code	MGV	Metal Glaze Resistor, Axial Leded Type, High Voltage
(2)	Power Rating	5S	5WS
(3)	T.C.R. Code	K1	K1: ±100PPM/°C K2: ±200, K5: ±500, 50: ±50PPM/°C
(4)	Resistance	5052	5052: 50.5KΩ 2000: 200Ω
(5)	Tolerance	F	F: ±1% K: ±10%, J: ±5%, D: ±0.5%,
(6)	Internal Code	B	B: Bulk A or TA: Tape and Ammo, R or TR: Tape and Reel

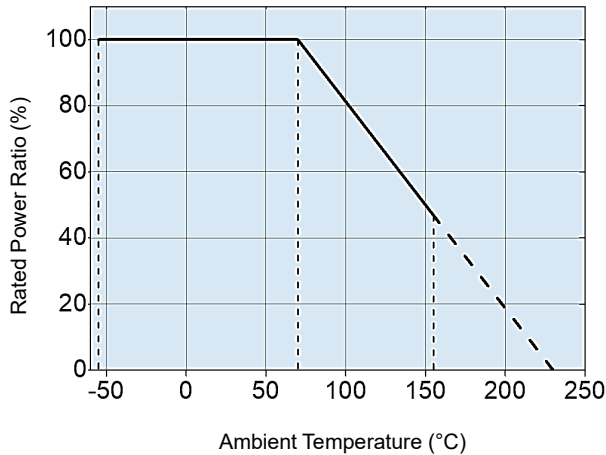
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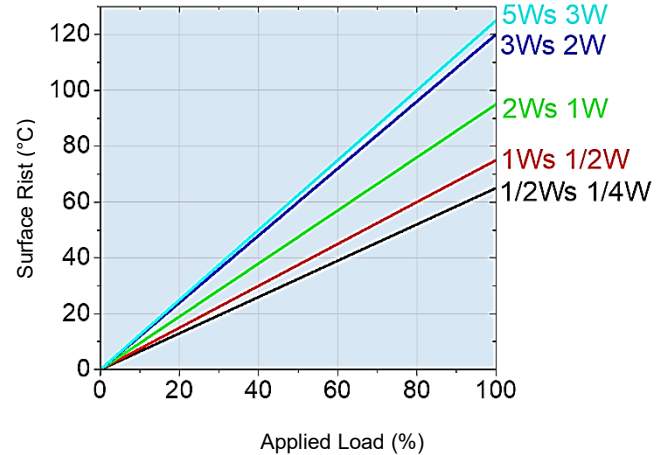
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CHARACTERISTIC CURVES

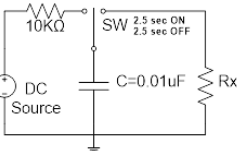
Power Derating Curve



Hot Spot Temperature



RELIABILITY

Test	Condition	Requirement										
Operating Temperature Range	-55°C to +225°C	All type										
Temperature Coefficient Resistance	Resistance value at Room Temperature and Room Temperature +125°C	By Type										
Insulation Resistance	Apply 500 ±50VDC During 1 min V-Block method	>10000MΩ										
Endurance	70°C at RCWV for 1000 hrs. (1.5 hrs. ON, 0.5 hrs. OFF)	± (3% + 0.05Ω)										
Moisture resistance	40±2°C 90~95%RH for 1000 hrs. (1.5 hrs. ON, 0.5 hrs. OFF)	± (5% + 0.05Ω)										
Short Time Overload	RCWV x 2.5 or Max Overload Voltage whichever is Lower, for 5 seconds	± (1% + 0.05Ω)										
Pulse Overload	RCWV x 4 for 10000 Cycles (1 seconds ON, 2.5 seconds OFF)	± (1% + 0.05Ω)										
Anti-Surge Characteristics	<table><tr><td>Power Rating</td><td>1/4W 1/2Ws</td><td>1/2W 1WS</td><td>1W 2WS 2W 3WS</td><td>3W 5WS</td></tr><tr><td>Surge Voltage</td><td>3KV</td><td>5KV: 1K≤R < 10K 7KV: 10K≤R < 100K 10KV: 100K≤R</td><td>10KV</td><td>15KV</td></tr></table>  Discharge Test: 0.01uF capacitor Discharge Pulse 10 time, 1 pulse / 5sec. max	Power Rating	1/4W 1/2Ws	1/2W 1WS	1W 2WS 2W 3WS	3W 5WS	Surge Voltage	3KV	5KV: 1K≤R < 10K 7KV: 10K≤R < 100K 10KV: 100K≤R	10KV	15KV	± (10% + 0.05Ω)
Power Rating	1/4W 1/2Ws	1/2W 1WS	1W 2WS 2W 3WS	3W 5WS								
Surge Voltage	3KV	5KV: 1K≤R < 10K 7KV: 10K≤R < 100K 10KV: 100K≤R	10KV	15KV								
Solderability	260±5°C for 2±1 seconds	90% Min Coverage										
Resistance to Soldering Heat	260±5°C for 2±1 seconds, leave for 3 hours before test	± (1% + 0.01Ω)										
Terminal Strength	Direct load for 10 seconds in the direction of the terminal leads	Tensile: ≥2.5kg										
Resistance to Solvent	IPA for 5±0.5 min, with ultrasonic	No abnormality										

Notes:

1. Storage Temperature: 22~28°C; Humidity: <80% RH,

2. Rated Continuous Working Voltage (RCWV) = $\sqrt{\text{Power Rating} * \text{Resistance Value}}$

*Specifications subject to change without notice.