Metal Glaze Resistor
High Voltage Axial Leaded Type

MGR 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,

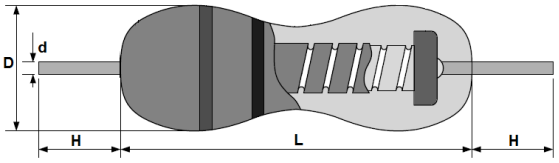
RoHS

ELECTRICAL CHARACTERISTICS

Power Rating, 70°C		Max Working Voltage (VDC)	Max Overload Voltage (VDC)	Dielectric Withstanding Voltage (VDC)	TCR (PPM/°C)	Resistance Range (Ω)	Resistance Tolerance (%)
(W)	(Code)						
1/4W	25	1600	2000	500	1K≤R≤10M ±200 PPM/°C 10M≤R≤10G ±500 PPM/°C Special: ±50 PPM/°C ±100 PPM/°C	1K~10G	1K≤R≤1G ±10%, ±5%, ±1% 1G≤R≤10G ±10% 1M≦R≦100 M ±0.5%
1/2WS	50S	1700	2500	500			
1/2W	50	3500	4000	700			
1WS	1S	4000	4500	700			
1W	1W	4500	5000	1000			
2WS	2S	5000	10000	1000			
2W	2W	7000	14000	1200			
3WS	3S	10000	14000	1200			
3W	3W	12000	16000	1200			
5WS	5S	13000	18000	1200			

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

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

No.	Item	Code	Description	
(1)	Product Code	MGR	Metal Glaze Resistor, Axial Leaded Type	
(2)	Power Rating	5S	5WS	See Electrical Characteristics table
(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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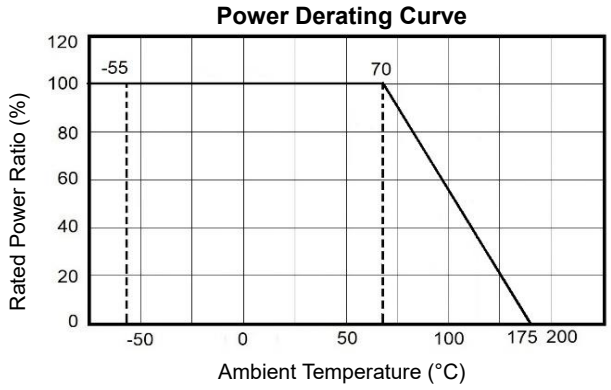
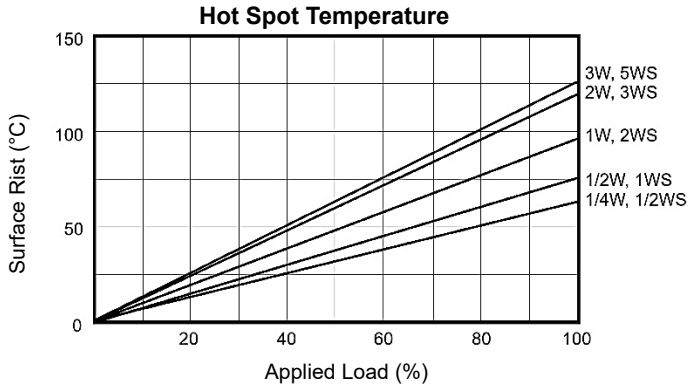
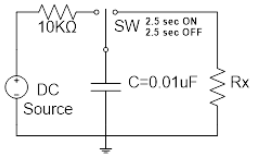
CHARACTERISTIC CURVES





RELIABILITY TEST CONDITION AND REQUIREMENT

Test	Condition	Requirement
Operating Temperature Range	-55°C to +155°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 rowspan="3">Surge Voltage</td><td rowspan="3">3KV</td><td>5KV: 1K≦R＜10K</td><td rowspan="3">10KV</td><td rowspan="3">15KV</td></tr><tr><td>7KV: 10K≦R＜100K</td></tr><tr><td>10KV: 100K≦R</td></tr></table>  Discharge Test: 0.01uf capacitor Discharge Pulse 10 time, 1 pulse / 5sec. max	± (10% + 0.05Ω)
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: 22~28ºC; Humidity:<80% RH,
2. Rated Continuous Working Voltage (RCWV) = $\sqrt{Power.Rating * Resistance.Value}$

*Specifications subject to change without notice.