

玻璃釉小型高壓高阻值電阻

MGS Series

Metal Glaze Resistor (High Ohm)

◆ **SCOPE:**

This specification is available for Metal Glaze Resistor manufactured by Mayloon.
The resistor is manufactured highly quality-controlled process and guaranteed high reliability.

◆ **STANDARD MEASURING CONDITIONS**

Temperature $20 \pm 2^\circ\text{C}$, Humidity $65 \pm 5\%$.

Being on about about the judgment, measurements can be made within the following

Temperature $5 \sim 35^\circ\text{C}$, Humidity $45 \sim 85\%$.



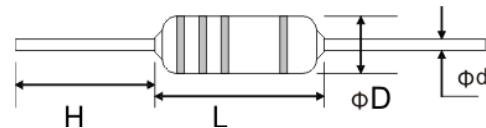
◆ **ORDERING**

Example: MGS0207TJ107

Type	Power	Package	Tolerance	Resistance
MGS0207	1/2WS	T = T/Box	F = $\pm 1\%$	104 = $100\text{K}\Omega$
MGS0309	1/2WS	B = Bulk	J = $\pm 5\%$	105 = $1\text{M}\Omega$
MGS0412	1WS	R = Reel	K = $\pm 10\%$	106 = $10\text{M}\Omega$
MGS0416	2WS			107 = $100\text{M}\Omega$
MGS0518	3WS			1G = $1\text{G}\Omega$

◆ **EXTERNAL DIMENSIONS**

Type	Dimensions (mm)			
	L	ΦD	Φd	H
MGS0207	6.3 ± 0.5	2.5 ± 0.5	0.55 ± 0.03	28 ± 2.0
MGS0309	8.3 ± 0.5	3.0 ± 0.5	0.55 ± 0.03	28 ± 2.0
MGS0412	8.8 ± 0.5	4.0 ± 0.5	0.65 ± 0.03	26 ± 2.0
MGS0416	11.0 ± 1.0	4.5 ± 0.5	0.78 ± 0.03	35 ± 2.0
MGS0518	14.5 ± 1.0	5.0 ± 0.5	0.78 ± 0.03	32 ± 2.0



* The type designation shall be in the following form and as specified.

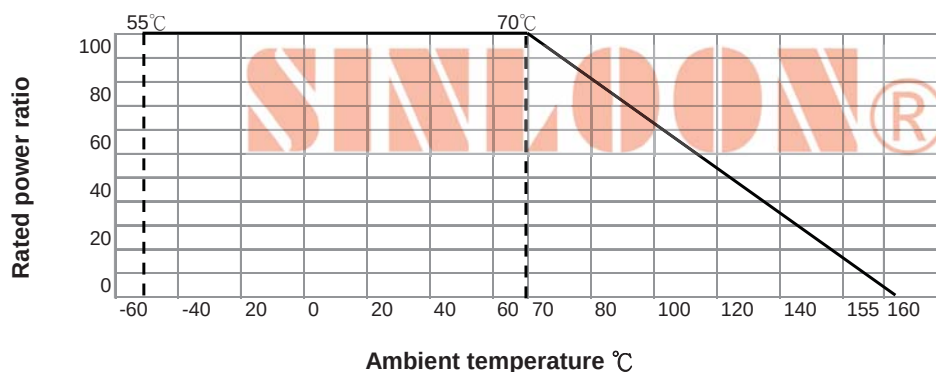
◆ **RATED POWER**

Type	Power	Maximum Voltage		Dielectric withstanding Vol		Resistance (Ω)		Operating
		Working	Overload	Silicon	Epoxy	Standard	High ohm	temperature Range
MGS0207	1/2WS	DC1700V	2500V	400V	500V	100K~910M	1G ~ 10G	-55℃ ~ 155℃
MGS0309	1/2WS	DC1800V	2500V	400V	500V	100K~910M	1G ~ 10G	
MGS0412	1WS	DC2500V	3500V	700V	700V	100K~910M	1G ~ 10G	
MGS0416	2WS	DC3500V	4000V	500V	1000V	100K~910M	1G ~ 10G	
MGS0518	3WS	DC3500V	4000V	700V	1200V	100K~910M	1G ~ 10G	
T.C.R:	±200ppm/℃, ±100ppm/℃. ±50ppm/℃.							
Tolerance:	F: ±1% E24, J:±5% E24, K:±10% E12. >1G (±10%) E12.							
Operating Temperature Range:			-55℃ ~ 155℃ Rating ambient Temp. ±70/℃					

* Rated power is maximum power which can continuously loaded at specified ambient determined 70°C , however when the ambient temperature exceeds 70°C , rated power should be determined from the derating curve of Fig 1.

* Silicon Resin: Brown (Falme-Proof) , Epoxy Resin: Light Blue.

◆ **POWER DERATING CURVE**



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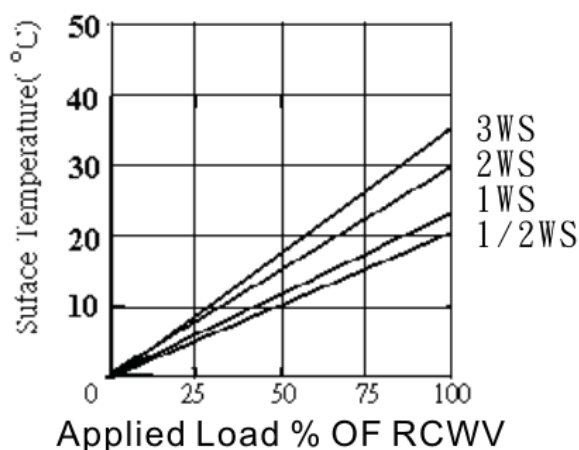
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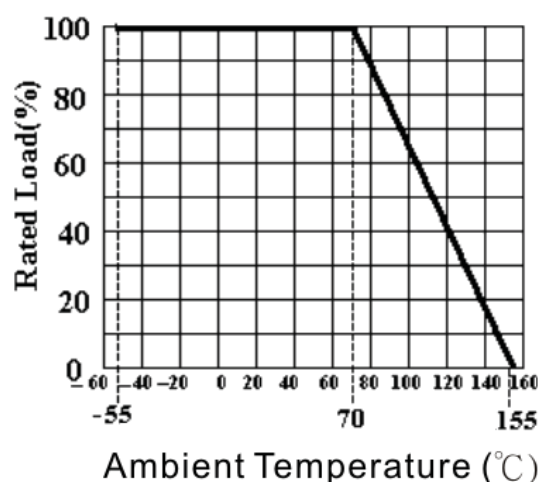
◆ **PERFORMANCE SPECIFICATIONS**

TEST ITEMS	Test Methods	SPECIFICATIONS
Short time overload	Rated Voltage X 2.5 or Max. overload Vol., whichever is lower, for 5sec.	$\pm (1.0\% + 0.05\Omega)$
Moisture resistance	40°C $\pm$ 2°C, 90%~95%RH, 1000h 90 min 【ON】 30 min 【OFF】	$\pm (5.0\% + 0.05\Omega)$
Load life	1000hours at rated voltage, 70°C 90 min 【ON】 30 min 【OFF】	$\pm (3.0\% + 0.05\Omega)$
Insulation resistance	500 $\pm$ 50V DC During 1 min V-Block method	$\pm 10,000M\Omega$
Dielectric withstanding voltage	In V-Block for 60 seconds	1/4W 400V 1W 800V 1/2W 500V 2W 2000V
Resistance to soldering	260°C $\pm$ 5°C, 10s $\pm$ 1s or 350°C $\pm$ 10°C, 3.5s $\pm$ 0.5s	$\pm (1.0\% + 0.05\Omega)$
Temperature cycling		$\pm (1.0\% + 0.05\Omega)$
Terminal strength	Direct load for 10 sec. In the direction off the terminal leads.	Tensile: $\geq 2.5kg$
Anti-surge characteristics	$R \geq 100KR$: 8KV/10nF	Rmax. $\pm 10\%$
	$R < 100KR$: 10KV/10nF	No damage
	2.5sec on/off 10 Cycle	
Intermittent overload	4 times RCWV for 10000 cycles (1 sec on, 25 sec off)	$\pm (1\% + 0.05\Omega)$

表面溫度上升曲線 surface temp.rise

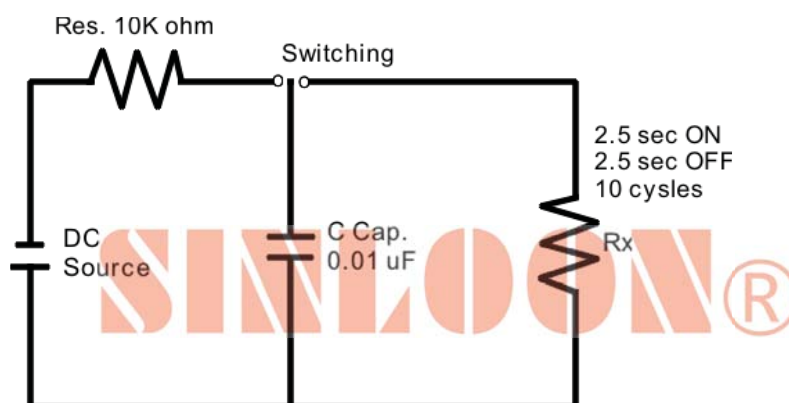


POWER GRAPH



◆ **Hi Voltage Surge Test**

10 discharges from a 10nf capacitor charged to Vmax :12 discharges/min
no evidence of flash over , mechanical damage , arching or , insulation breakdown.

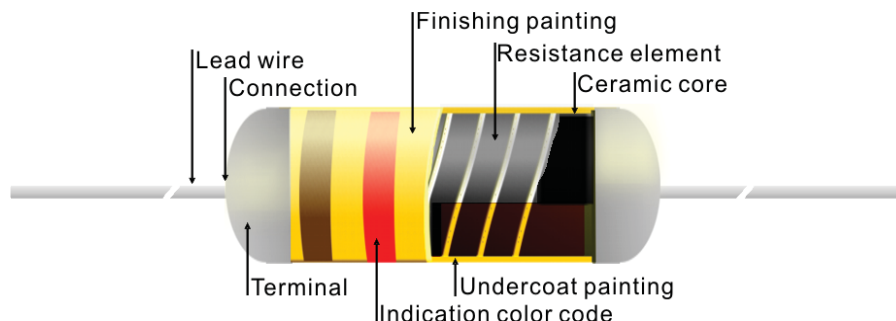


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◆ **STRUCTURE DIAGRAM**

The construction of resistor (MGS Series) shall be Figure.



Item	Material
Ceramic Core	High alumina ceramic is used
Resistance element	The resistor element shall consist of metal glaze film.
Terminal	Tinned iron cap.
Connection	The lead wire, Which is elated with solder, shall be mounted to the caps by welding process.
Lead Wire	Soldered or tinned annealed copper wire.
Undercoat Painting	Electric insulation varnish.
Finishing painting	Epoxy resin is used.
Induction	Color code.

◆ **Painting Resistor body color**

(1)	MGS series		Epoxy Resin: Light Blue
(2)			Silicon Resin: Brown (Flame-Proof)

◆ **PACKAGE:**

Type	Power	Form	Dimensions (mm)			Quantity
			L	W	H	
MGS0207	1/2WS	T52	80	105	264	5000 pcs
MGS0309	1/2WS	T52	80	35	264	1000 pcs
MGS0412	1WS	T52	80	46	264	1000 pcs
MGS0416	2WS	T73	103	82	264	1000 pcs
MGS0518	3WS	T73	103	82	264	1000 pcs

