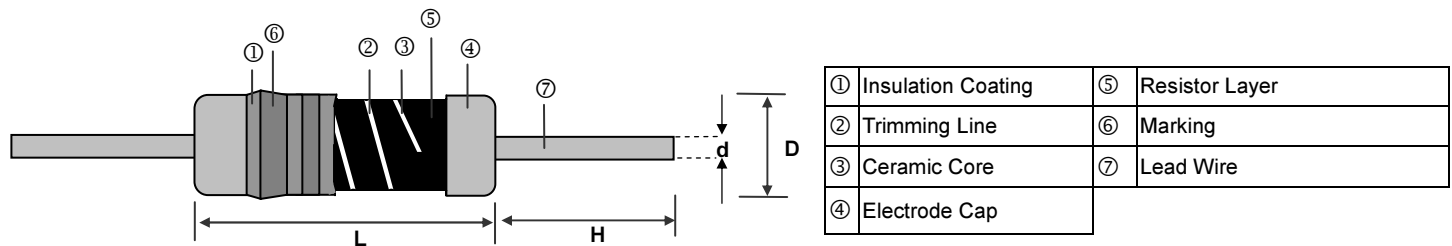


## Metal Glazed Leaded Resistor Metal Glazed Leaded Resistor

### Scope

- Coat-Insulated megohm fixed resistors (Metal Glazed)
- High voltage surge resistors

### Construction



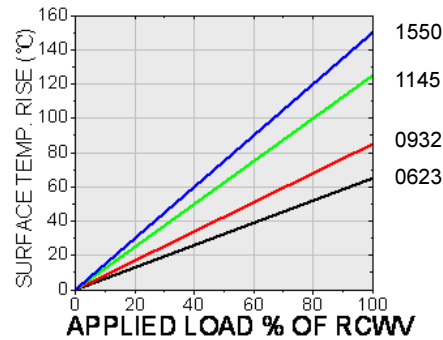
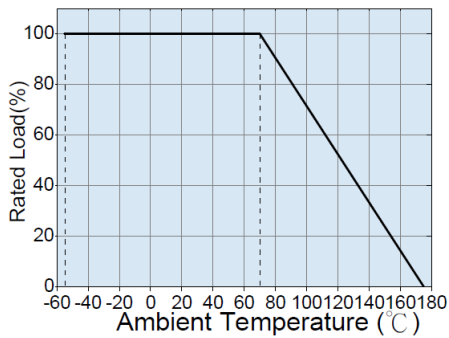
### Dimensions

Unit: mm

Type	L	D	H	d
MGR0623	6.3±0.5	2.3±0.3	28±2.0	0.55±0.03
MGR0932	9.0±0.5	3.2±0.5	26±2.0	0.65±0.03
MGR1145	11.5±1.0	4.5±0.5	35±2.0	0.78±0.03
MGR1550	15.5±1.0	5.0±0.5	32±2.0	0.78±0.03

### Part Numbering

MGR	0932	F	T	F	U	1004	S
Product Type	Dimensions (L×D)	Resistance Tolerance	Packaging Code	TCR (PPM/°C)	Power Rating	Resistance	Special
	0623: 6.3x2.3 0932: 9.0x3.2 1145: 11.5x4.5 1550: 15.5x5.0	F: ±1% G: ±2% J: ±5%	A: Ammo T: Taping Reel	E: ±100 F: ±200	V: 1/4W U: 1/2W T: 1W S: 2W R: 3W	1003: 100KΩ 1004: 1MΩ 1007: 1GΩ	S: Silicone Resin E: Epoxy Resin

**Derating Curve**
**Surface Temp Rise**

**Standard Electrical Specifications**

Item Type	Power Rating at 70°C	Operating Temp. Range	Max. Working Voltage	Max. Overload Voltage	Dielectric Withstanding Voltage		Resistance Range			TCR (PPM/°C)
					Silicone Risin	Epoxy Risin	±1%	±2%	±5%	
0623	1/4W	-55 ~ +175°C	DC1600V AC1150V	DC2000V AC1500V	400V	500V	10KΩ~100MΩ		1KΩ~100MΩ	±100
							101MΩ~1GΩ			±200
0932	1/2W		DC3500V	4000V	500V	700V	10KΩ~100MΩ		1KΩ~100MΩ	±100
							101MΩ~1GΩ			±200
1145	1W		DC4500V	5000V	500V	1000V	1KΩ~100MΩ			±100
							101MΩ~1GΩ			±200
1550	2W		DC7000V	14000V	700V	1200V	1KΩ~100MΩ			±100
							101MΩ~1GΩ			±200

**High Power Rating Electrical Specifications**

Item Type	Power Rating at 70°C	Operating Temp. Range	Max. Working Voltage	Max. Overload Voltage	Dielectric Withstanding Voltage		Resistance Range			TCR (PPM/°C)
					Silicone Risin	Epoxy Risin	±1%	±2%	±5%	
0623	1/2W	-55 ~ +175°C	DC1700V	2500V	400V	500V	10KΩ~100MΩ		1KΩ~100MΩ	±100
							101MΩ~1GΩ			±200
0932	1W		DC4000V	4500V	500V	700V	10KΩ~100MΩ			±100
							101MΩ~1GΩ			±200
1145	2W		DC7000V	14000V	700V	1200V	10KΩ~100MΩ			±100
							101MΩ~1GΩ			±200
1550	3W		DC10000V	14000V	700V	1200V	10KΩ~100MΩ			±100
							101MΩ~1GΩ			±200

Operating Voltage= $\sqrt{(P \cdot R)}$  or Max. operating voltage listed above, whichever is lower.

Overload Voltage= $2.5 \cdot \sqrt{(P \cdot R)}$  or Max. overload voltage listed above, whichever is lower.

**Silicone Risin coating color : Brown (Flame-Proof)**

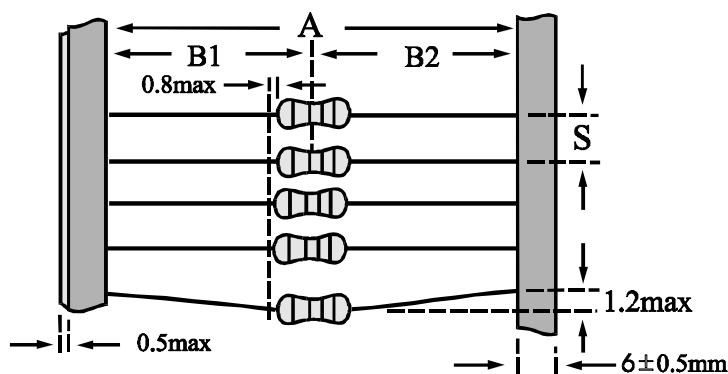
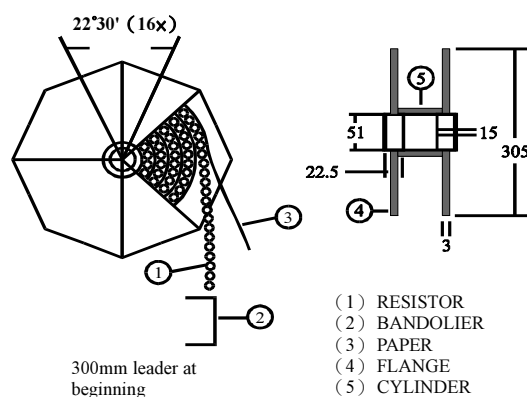
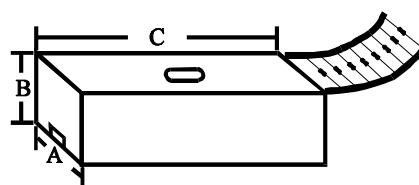
**Epoxy Risin coating color : Light Blue**

**Environmental Characteristics**

Item	Requirement	Test Method
Temperature Coefficient(T.C.R)	As Spec	Resistance value at room temperature and room temperature+125°C
Short Time Overload	$\pm(1.0\%+0.05\Omega)$	<b>JIS-C-5201-1 5.5</b> RCWV*2.5 or Max. overload voltage whichever is lower for 5 seconds
Insulation Resistance	$\pm 10,000M\Omega$ Over	<b>MIL-STD-202F Method 302</b> 500±50V DC During 1 min V-Block method
Endurance	$\pm(3.0\%+0.05\Omega)$	<b>MIL-STD-202F Method 108A</b> 70±2°C, RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	$\pm(5.0\%+0.05\Omega)$	<b>MIL-STD-202F Method 103B</b> 40±2°C, 90~95% R.H., for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Dielectric Withstanding Voltage	By Type	<b>MIL-STD-202F Method 301</b> In V-Block for 1 minute
Intermittent Overload	$\pm(1.0\%+0.05\Omega)$	<b>JIS-C-5201-1 5.8</b> 4 times RCWV for 10000 cycles with 1sec "ON" and 25 sec "OFF"
Resistance To Soldering Heat	$\pm(1.0\%+0.05\Omega)$	260°C±5°C for 2±1 seconds
Terminal Strength	Tensile: $\geq 2.5kg$	Direct Load for 10 sec. In the direction off the terminal leads

RCWV(Rated continuous working voltage)=  $\sqrt{(P \cdot R)}$  or Max. Operating voltage whichever is lower

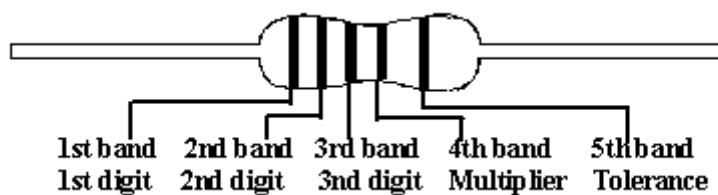
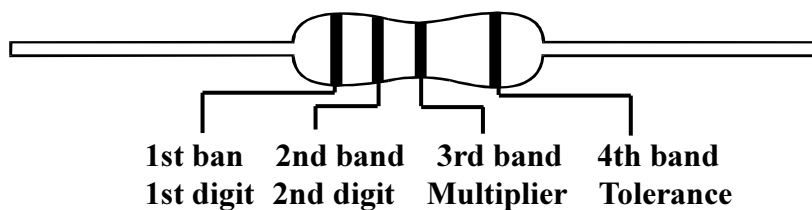
**Storage Temperature: 15~28°C; Humidity < 80%RH**

**Taping/Packing Specifications**
**1. Standard Type (Reel & Ammo)**
Packing Methods

Reel Packing

Ammo Packing


Unit: mm

Packaging Type	Packing Methods			Reel Packing		Ammo Packing			
	A	B1-B2 Max	S	Across Flange (A)	Qty	A	B	C	Qty
0623	52+1/-0	1.2	5	72	5,000	80	105	264	5,000
0932	52+1/-0	1.2	5	72	2,500	80	46	264	1,000
1145	52+1/-0	1.5	5	95	2,000	103	82	265	1,000
1550	52+1/-0	1.5	10	95	1,000	103	96	265	1,000

■ Marking & Resistance Tolerance



Color	Digit	Multiplier	Tolerance	
Without	-	-	-	-
Silver	-	$10^{-2}$	$\pm 10\%$	K
Gold	-	$10^{-1}$	$\pm 5.0\%$	J
Black	0	$10^0$	-	-
Brown	1	$10^1$	-	-
Red	2	$10^2$	$\pm 2.0\%$	G
Orange	3	$10^3$	-	-
Yellow	4	$10^4$	-	-
Green	5	$10^5$	-	-
Blue	6	$10^6$	-	-
Violet	7	$10^7$	-	-
Grey	8	$10^8$	-	-
White	9	$10^9$	-	-

$\pm 5.0\%$	E-24	1.0	1.1	1.2	1.3	1.5	1.6	1.8	2.0	2.2	2.4	2.7	3.0	3.3	3.6	3.9	4.3	4.7	5.1	5.6	6.2	6.8	7.5	8.2	9.1
$\pm 2.0\%$																									
$\pm 1.0\%$																									