



Lean Gimn Enterprise Co.,Ltd

連靖企業股份有限公司

High Precise Metal Film Leaded Precision Resistor-MFD Series

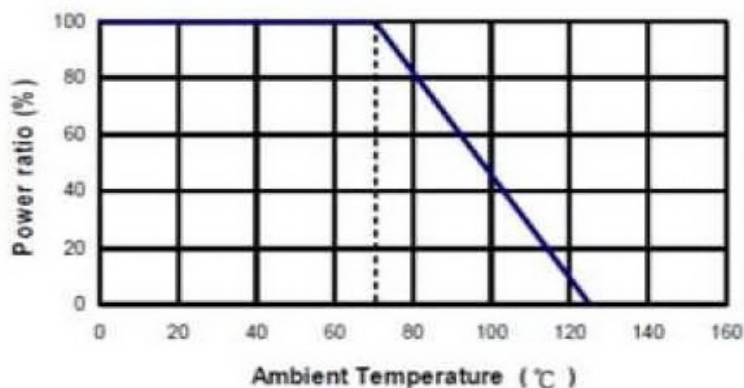
Features :

1. High thermal conductivity and specific gravity rods.
2. Power Rating : 0.25W ~ 0.5W
3. Precision tolerance tight to $\pm 0.02\%$
4. Superior electrical TCR performances narrowed to $\pm 5 \text{ ppm}/^\circ\text{C}$
5. Lead(Pb)-free and RoHS compliant, covers all general type resistors.

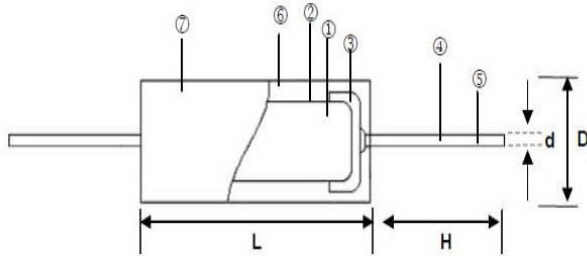
Construction :

1. Ceramic Core (Alumina ceramic)
2. Resistor Element (Nickel alloy)
3. Terminal (Tinned iron cap)
4. Connection
5. Lead Wire (Tinned annealed copper wire)
6. Molding (Epoxy)
7. Laser Marking (Epoxy)

Dearating Curve:



Dimensions:



- ① Ceramic Core (Alumina ceramic)
- ② Resistor Element(Nickel alloy)
- ③ Terminal(Tinned iron cap)
- ④ Connection
- ⑤ Lead Wire (Tinned annealed copper wire)
- ⑥ Molding (Epoxy)
- ⑦ Marking (Epoxy)

Type	L	D	H	d	Weight(g) (1000 pcs)
MFD 0727	7.0±0.3	2.7±0.4	26±3.0	0.6±0.05	230
MFD 1040	10.2±0.3	4.0±0.4	25±3.0	0.6±0.05	430

Part Numbering :

Product Type	Dimensions (L X D)	Resistance Tolerance	Packaging Code	TCP (PPM/°C)	Power Rating	Resistance
MFD	0727: 7.0*2.7 1040:10.2* 4	Q: ±0.02% A: ±0.05% B: ±0.1%	A:Ammo B:Bulk	S: ±5 B: ±10 N: ±15 C: ±25	U: 1/2W V: 1/4W	R100: 10Ω 2201: 2K2Ω 1001: 10KΩ 1001: 1KΩ 1004: 1MΩ

Standard Electrical Specifications

Item Type	Power Rating 70 °C	Operating Temp.Rang	Max. Operating Voltage	Max. Overload Voltage	Resistance Range			TCR (PPM/°C)
					±0.02%	±0.05%	±0.1%	
0727	1/4W	-55~+125°C	250V	500V	10Ω-1MΩ			±5
1040	1/2W		300V	600V				±10
								±15
								±25

Environmental Characteristics

Item	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R.)	As Spec.	Resistance value at room temperature and room temperature+60°C
Short Time Overload	$\pm(0.15\%+0.05\Omega)$	RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance	> 1,000M Ω	Apply 500V _{DC} for 1 minute
Endurance	$\pm(0.5\%+0.05\Omega)$	70 \pm 2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	$\pm(0.5\%+0.05\Omega)$	40 \pm 2°C, 90~95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Solderability	95% min. Coverage	245 \pm 5°C for 5 seconds
Resistance to Soldering Heat	$\pm(0.1\%+0.01\Omega)$	350 \pm 10°C for 3 seconds after test leave for 3 hours
Terminal Strength	Tensile: \geq 2.5kg	Tensile strength: for 10 sec. Torsional strength: Rotated through 360°, 5 rotations.
Pulse Overload	$\pm(0.1\%+0.01\Omega)$	4 times RCWV for 10000 cycles with 1second "ON" and 25 seconds "OFF"
Temperature Cycle	$\pm(0.5\%+0.05\Omega)$	Low side : -55°C/30min., Room temp. : 10 to 15min. High side : 85°C/30min., Room temp. : 10 to 15min. 5 cycles
Resistance to Solvent	No deterioration of coatings and markings	Trichroethane for 3 min. with ultrasonic

■ Reference Standards: MIL-STD-202, JIS-C 5201-1

■ Storage Temperature: 25 \pm 3°C; Humidity < 80%RH