

● **Features**

- ⊙ Power Rating :0.25W ~ 0.5W.
- ⊙ Precision tolerance tight to $\pm 0.02\%$
- ⊙ Precision metal film, excellent stability and reliability.
- ⊙ Superior electrical TCR performances narrowed to $\pm 5 \text{ ppm}/^\circ\text{C}$
- ⊙ Lead (Pb)-free and RoHS compliant, Covers all general type resistors.

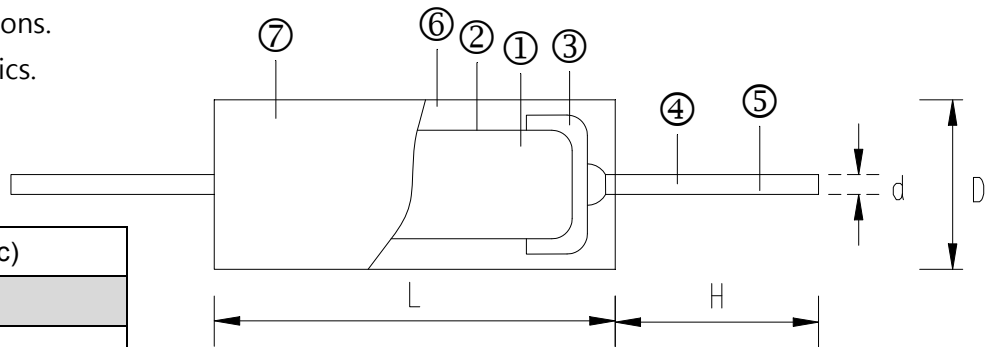


● **Applications**

- ⊙ Medical electronics.
- ⊙ Measuring and calibration equipment.
- ⊙ High gain feedback applications.
- ⊙ Precision Instruments, Avionics.
- ⊙ Telecom.

● **Construction**

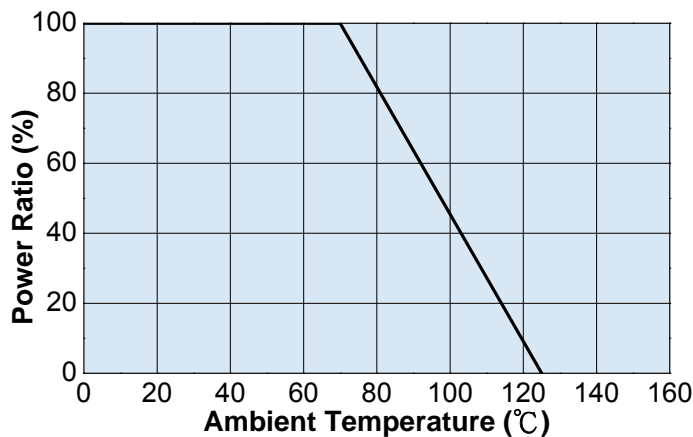
①	Ceramic Core (Alumina ceramic)
②	Resistor Element (Nickel alloy)
③	Terminal (Tinned iron cap)
④	Connection
⑤	Lead Wire (Tinned annealed copper wire)
⑥	Molding (Epoxy)
⑦	Laser Marking (Epoxy)



● **Dimensions**

Type	L	D	H	d	Weight(g) (1000pcs)
MFD0727	7.0±0.3	2.7±0.4	26±3	0.6±0.05	230
MFD1040	10.2±0.3	4.0±0.4	25±3	0.6±0.05	430

● **Derating Curve**



● Standard Electrical Specifications

Item Type	Power Rating 70°C	Operating Temp. Range	Max. Operating Voltage	Max. Overload Voltage	Resistance Range			TCR (PPM/°C)
					±0.02%	±0.05%	±0.1%	
727	1/4W	-55 ~ +125°C	250V	500V	10Ω ~ 1MΩ			±5
1040	1/2W		300V	600V				±10
								±15
								±25

■ Operating Voltage $V = \sqrt{P \cdot R}$

● 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	±(0.15%+0.05Ω)	RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance	> 1,000MΩ	Apply 500V _{DC} for 1 minute
Endurance	±(0.5%+0.05Ω)	70±2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	±(0.5%+0.05Ω)	40±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±5°C for 5 seconds
Resistance to Soldering Heat	±(0.1%+0.01Ω)	350±10°C for 3 seconds after test leave for 3 hours
Terminal Strength	Tensile: ≥ 2.5kg	Tensile strength: for 10 sec. Torsional strength: Rotated through 360°, 5 rotations.
Pulse Overload	±(0.1%+0.01Ω)	4 times RCWV for 10000 cycles with 1second "ON" and 25 seconds "OFF"
Temperature Cycle	±(0.5%+0.05Ω)	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±3°C; Humidity < 80%RH

MFD	0727	B	B	S	V	1001
Type	Dimensions	Tolerance	Packaging	TCR	Power Rating	Resistance
MFD High Precise Metal Film	0727 7.0*2.7 1040 10.2*4.0	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	0100 10Ω 2201 2K2Ω 1002 10KΩ 1001 1KΩ 1004 1MΩ