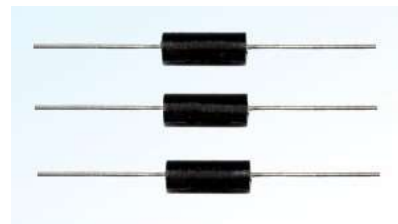


HIGH PRECISION MOLDED METAL FILM RESISTOR

MMF SERIES

Features

- Power Rating: 0.125W~1W
- Precision tolerance to $\pm 0.02\%$
- Precision metal film, excellent stability and reliability
- Superior electrical TCR performance narrowed to $\pm 5\text{ppm}/^\circ\text{C}$
- Lead (Pb)-free and RoHS compliant, Covers all general type resistors



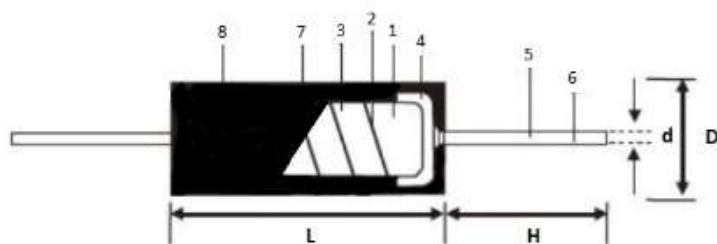
Applications

- Medical Electronics
- Telecommunication
- Measuring and calibration equipment
- Precision Instrument, Avionics

Construction

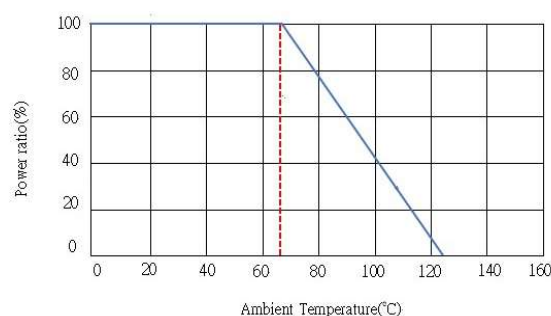
Type	L	D	H	d	(Unit:mm)
					Weight(g) (1000pcs)
MMF0419	4.4 ± 0.3	1.9 ± 0.4	26 ± 3	0.45 ± 0.05	100
MMF0727	7.0 ± 0.3	2.7 ± 0.4	26 ± 3	0.6 ± 0.05	230
MMF1040	10.2 ± 0.3	4.0 ± 0.4	25 ± 3	0.6 ± 0.05	430
MMF1551	15.5 ± 0.3	5.1 ± 0.4	23 ± 3	0.6 ± 0.05	1080
MMF1865	18.2 ± 0.3	6.5 ± 0.4	30 ± 3	0.8 ± 0.05	1850

Construction



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

Derating curve



Electrical and Mechanical Performance

Type	Power rating		Operating temp. range	Max. Operating Voltage	Max. Overload Voltage	Resistance range			TCR (PPM/°C)
	70°C	125°C				±0.02%	±0.05%	±0.1%	
0419	1/8W	1/20W	-55~+125°C	200V	400V	100Ω~100KΩ			±5
						10Ω~1MΩ			±10 ±15 ±25
0727	1/4W	1/10W		250V	500V	100Ω~500KΩ			±5
						10Ω~1MΩ			±10 ±15 ±25
1040	1/2W	1/8W		300V	600V	100Ω~500KΩ			±5
						10Ω~1MΩ			±10 ±15 ±25
1551	3/4W	1/4W		350V	700V	100Ω~500KΩ			±5
						10Ω~1MΩ			±10 ±15 ±25
1865	1W	1/2W		400V	800V	100Ω~500KΩ			±5
						10Ω~1MΩ			±10 ±15 ±25

Note: Special STO or TCR beyond the above range available upon request.

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	±(0.05%+0.05Ω)	RCWV*2.5 or Max overloading voltage for 5 second
Insulation Resistance	>1,000MΩ	Apply 500V _{DC} for 1minute
Endurance	±(0.2%+0.05Ω)	70±2°C, Max. working voltage for 1000hrs with 1.5hrs "ON" and 0.5hrs "OFF"
Damp Heat with Load	±(0.2%+0.05Ω)	40±2°C, 90~95%R.H. Max. working voltage for 1000hrs with 1.5hrs "ON" and 0.5hrs "OFF"
Solderability	95%min. Coverage	245±5°C for 5 seconds
Resistance to Soldering Heat	±(0.05%+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 1 second "ON" and 25 seconds "OFF"
Temperature	±(0.05%+0.05Ω)	Low side: -55°C/30min., Room temp.: 10 to 15min. High side: 85°C/30min., Room temp.: 10 to 15min. 5 cycle
Resistance to solvent	No deterioration of coatings and markings	Trichroethane for 1 min. with ultrasonic.
Shelf Life	ΔR=±0.1%	12 months at room temperature 25±3°C, 80% RH Max

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

Storage Temperature: 25±3°C; <80%RH

Parts Number System

Product Type	Dimensions(L x D)	Resistance	Resistance Tolerance	Packaging Code	TCR(PPM/°C)
MMF - High precision Mold Metal Film	0419: 4.0 x 1.9 0727: 7.0 x 2.7 1040: 10.2 x 4.0 1551: 15.5 x 5.1 1865: 18.2 x 6.5	0100: 10Ω 2201: 2K2Ω 1002: 10KΩ 1001: 1KΩ 1004: 1MΩ	T: ±0.01% Q: ±0.02% A: ±0.05% B: ±0.1%	T: Tape Box B: Bulk R: Tape Reel (0419 only)	S: ±5 T: ±10 H: ±15 E: ±25

