



炬鹿科技有限公司
RIDEE TECH COMPANY LIMITED

Revision Date : 2023 / 06 / 21

APPROVAL SHEET

Product Name : High Precise Metal Film Leaded Precision Resistor

Part No. : TMD

Description : Size 0419~1865

炬鹿科技有限公司

RIDEE TECH COMPANY LIMITED

For more contact information, please refer to our website: www.rideetech.com

High Precise Metal Film Leaded Precision Resistor–TMD Series

■ Applications

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



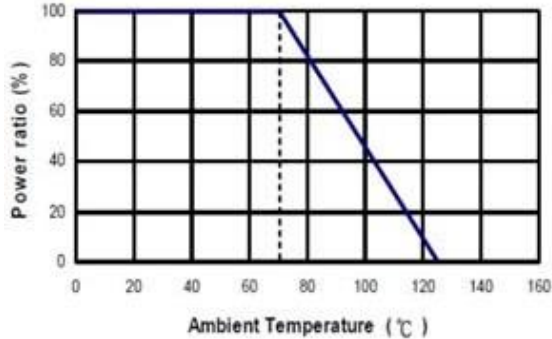
■ Features

- Power Rating :0.125W ~ 1W.
- Precision tolerance tight to $\pm 0.01\%$
- 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.

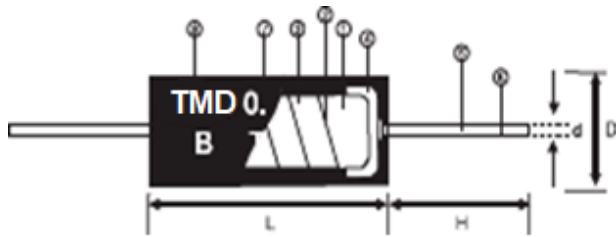
■ Part Number Explanation

TMD	0727	B	V	1001	B	C	S
Product	Size (Inch)	Tolerance	Power Rating	Resistance	Packaging	TCR (PPM// $^\circ\text{C}$)	Functional
High Precise Metal Film Leaded Precision Resistor	0419 0727 1040 1551 1865	T: $\pm 0.01\%$ Q: $\pm 0.02\%$ A: $\pm 0.05\%$ B: $\pm 0.10\%$	T: 1W Q: 3/4W U: 1/2W V: 1/4W W: 1/8W	0100 : 10 Ω 2201 : 2K2 Ω 1002 : 10K Ω 1001 : 1K Ω 1004 : 1M Ω	A : Ammo B : Bulk	S : ± 5 B : ± 10 N : ± 15 C : ± 25	S: Standard

Derating Curve



Construction



- ① Ceramic Core (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 (Epoxy)

Dimensions

Type	L	D	H	d	Weight (g) (1000pcs)
TMD0419	4.4±0.3	1.9±0.4	26±3	0.45±0.05	100
TMD0727	7.0±0.3	2.7±0.4	26±3	0.6±0.05	230
TMD1040	10.2±0.3	4.0±0.4	25±3	0.6±0.05	430
TMD1551	15.5±0.3	5.1±0.4	23±3	0.6±0.05	1080
TMD1865	18.2±0.3	6.5±0.4	30±3	0.8±0.05	1850

Unit: mm

Standard Electrical Specifications

Item Type	Power Rating (W)	Operating Temp. Range	Max. Operating Voltage	Max. Overload Voltage	Resistance Range				TCR (PPM/°C)
	70°C				±0.01%	±0.02%	±0.05%	±0.1%	
0419	1/8W	-55 ~ +125°C	200V	400V	100Ω-100KΩ				±5
					10Ω-1MΩ				±10、±15、±25
0727	1/4W		250V	500V	100Ω-500KΩ				±5
					10Ω-1MΩ				±10、±15、±25
1040	1/2W		300V	600V	100Ω-500KΩ				±5
					10Ω-1MΩ				±10、±15、±25
1551	3/4W		350V	700V	100Ω-500KΩ				±5
					10Ω-1MΩ				±10、±15、±25
1865	1W		400V	800V	100Ω-500KΩ				±5
					10Ω-1MΩ				±10、±15、±25

■ Note: Customer may also ask some special STOL or TCR beyond the above range.

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. overload voltage for 5 seconds
Insulation Resistance	> 1,000MΩ	Apply 500 V _{DC} for 1 minute
Endurance	±(0.2%+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	±(0.2%+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	±(0.05%+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 1second "ON" and 25 seconds "OFF"
Temperature Cycle	±(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 cycles
Resistance to Solvent	No deterioration of coatings and markings	Trichroethane for 1 min. with ultrasonic
Shelf life	△R=±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; Humidity <80%RH