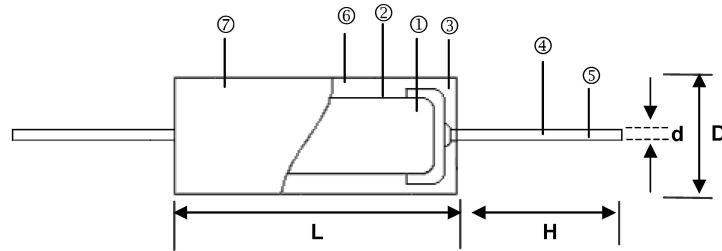


## Construction



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

## Features

- Very tight tolerance down to  $\pm 0.02\%$
- Extremely low TCR down to  $\pm 5\text{PPM}/^\circ\text{C}$
- High precision
- Excellent stability

## Applications

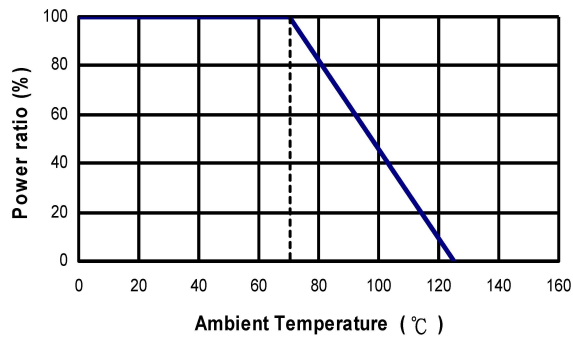
- Precision Equipment
- Measurement Equipment

## Dimensions

Unit: mm

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

## Derating Curve



## Part Numbering

<b>MFD</b>	<b>0727</b>	<b>B</b>	<b>A</b>	<b>C</b>	<b>V</b>	<b>1001</b>
Product Type	Dimensions (L×D)	Resistance Tolerance	Packaging Code	TCR (PPM/°C)	Power Rating	Resistance
	0727: 7.0x2.7 1040: 10.2x4.0	Q: $\pm 0.02\%$ A: $\pm 0.05\%$ B: $\pm 0.1\%$	A: Ammo B: Bulk	S: $\pm 5$ B: $\pm 10$ N: $\pm 15$ C: $\pm 25$	U: 1/2W V: 1/4W	0100: 10 $\Omega$ 2201: 2200 $\Omega$ 1002: 10000 $\Omega$ 1001: 1K $\Omega$ 1004: 1M $\Omega$

## Standard Electrical Specifications

Item Type	Power Rating at 70°C	Operating Temp. Range	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 - 500KΩ 10Ω - 1MΩ 10Ω - 1MΩ 10Ω - 1MΩ			±5 ±10 ±15 ±25
1040	1/2W		300V	600V				

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

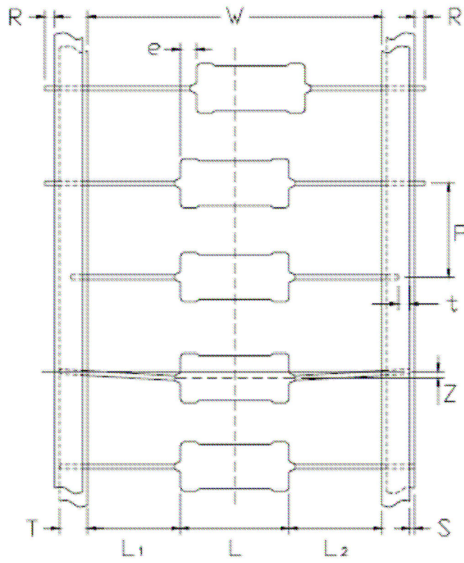
## Environmental Characteristics

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 <sub>DC</sub> 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

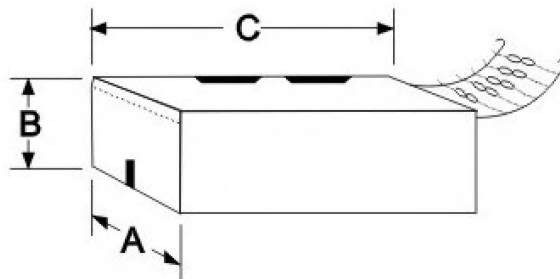
## ■ Taping/Packing Specifications



Unit: mm

Packaging Type	Packing Methods									
	L	W	P	L1-L2 Max.	T	Z Max.	R Max.	t Max.	e Max.	S Max.
0727	7.0±0.3	52±1	5±0.3	1.0	6±0.5	0.8	0	2.5	0.5	0.5
1040	10.2±0.3	52±1	5±0.3	1.0	6±0.5	0.8	0	2.5	0.5	0.5

## ■ Ammo Packing



Unit: mm

Type	Ammo Packing			
	A	B	C	Qty
0727	79	53	258	2,000
1040	79	53	258	1,000