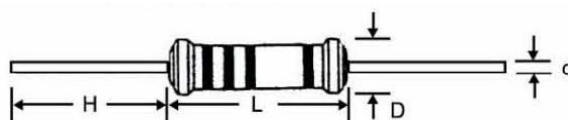


# MINIATURE SIZE METAL FILM FIXED RESISTORS

## (FM SERIES)

1. Miniature size for saving PCB assembly.
2. Manufactured by high vacuum sputtering deposit metal film on high aluminum content ceramic rods.
3. Superior electrical performance and cost comparable to conventional size.
4. Standard tolerance:  $\pm 1\%$

### Dimensions



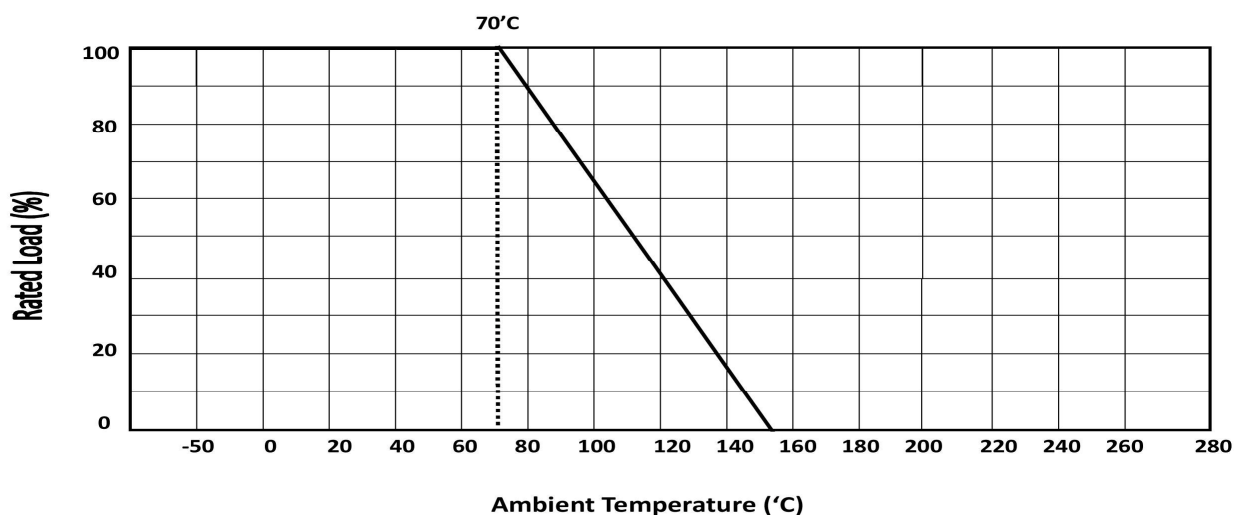
### General Specification

Style	Power Rating(W)	Dimensions				Max Working V.*	Max Overload V.	*Resistance Range 1%
	70°C	L	D	d	H (MIN)			
FM-0204	0.4W	$3.7 \pm 0.4$	$1.7 \pm 0.2$	$0.45 \pm 0.05$	27	200V	350V	10Ω~1MEG
FM-0207	0.6W	$6.5 \pm 0.5$	$2.3 \pm 0.2$	$0.50 \pm 0.05$	27	350V	500V	10Ω~1MEG
FM-01	1W	$6.5 \pm 0.5$	$2.3 \pm 0.2$	$0.55 \pm 0.05$	27	350V	500V	10Ω~1MEG
FM-02	2W	$10.5 \pm 1$	$3.5 \pm 1$	$0.75 \pm 0.05$	25	350V	700V	10Ω~1MEG
FM-03	3W	$16.0 \pm 1$	$5.5 \pm 0.5$	$0.75 \pm 0.05$	25	350V	700V	10Ω~1MEG

\*Max working voltage determined by  $E = \sqrt{PR}$ , E Should not exceed value listed in column above

\*Ohmic values beyond 10Ω - 1M and closer tolerance up to 0.1% are available upon request.

### Derating Curve



## Characteristics

Requirements	Characteristics	
Temperature Coefficient	$\pm 25\text{PPM}$ $\pm 50\text{PPM}$ $\pm 100\text{PPM}$	$10^{-6} / ^\circ\text{C}$ MIL-STD-202 METHOD-304
Life Stability At 70 °C 1000 Hr Max. Resistance Change	0.5%	At Most Vmax. 1.5 hr on 0.5 hr off
Dielectric Withstanding Voltage	300 Vr.m.s.for FM-0204 500 Vr.m.s.for FM-0207,FM-01	
Insulation Resistance	>10 MΩ	100VDC
Damp Heat Steady State	±1%	56Days At 40°C and 95°C Relative humidity at a voltage of 0.1 times rated voltage. Max 16 Volts
Short time Overload	±0.5%	2.5 times rated voltage, at most 2 times limiting element voltage (U Max)
Moisture Resistance	±1.5%	40±2 °C , 95% RH, 1000hrs
Resistance to Soldering Heat	±0.5%	350±5 °C to 6mm distance from the resistance body in 3 sec.
Temperature Cycling	±0.5%	- 55 to +155 °C
Low Temperature Operation	±0.5%	- 65°C
Vibration	±0.5%	
Current Noise	Up to 1MΩ ≤ 0.5 $\frac{\mu\text{V}}{\text{V}}$	- 5dB
Solderability	>95% coverage	Dipping in 260°C Solder bath for 2.5 sec
Resistance to Solvents	No failure to top coating and color code	

## Parts Number system

FM	0207	1002	F	T	E
FM Miniature size metal film resistor	Wattages	Resistance	Tolerance	packaging codes	T.C.R.
		4-digit code for ≤ 1% 1002= 10K ohm 3-digit code for 5% 103= 10K ohm	J= 5% F= 1% D= 0.5% B= 0.1%	T=AMMO tape / box R=Tape reel B=Bulk pack	K=100 ppm C=50 ppm E=25 ppm T=10 ppm No TCR marked on P/N for 5% tolerance

Note:

1. 26, 25, 63 and 73MM tapping are available for different wattages.
2. Flameproof coating for FM01, FM02 and FM03.
3. Resistance range 0.1% 10Ω~150k ohm.

