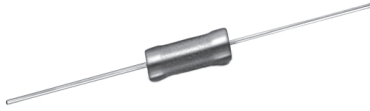


# Metal Oxide Resistors, Industrial, Flameproof



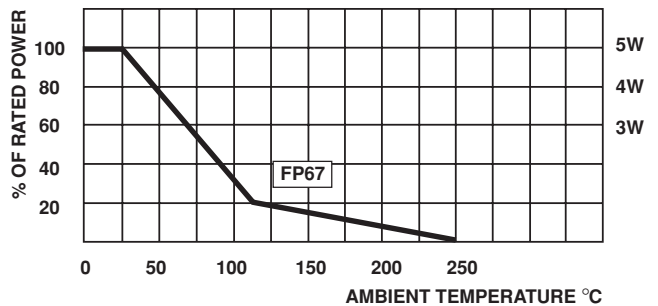
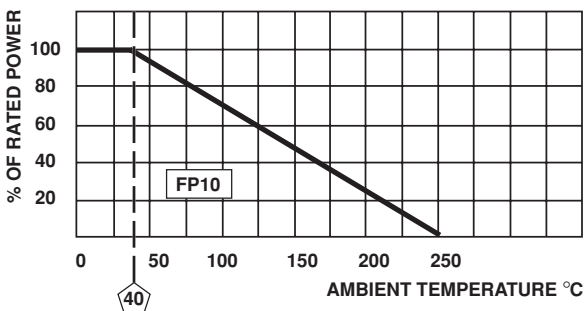
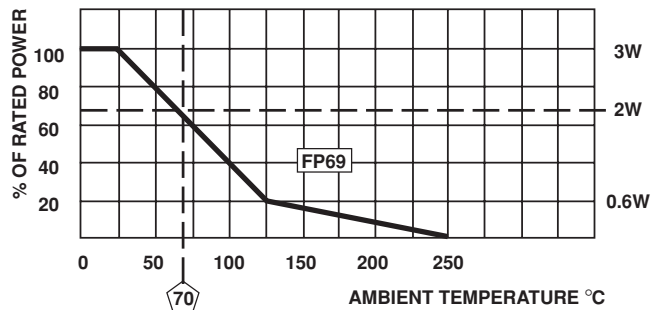
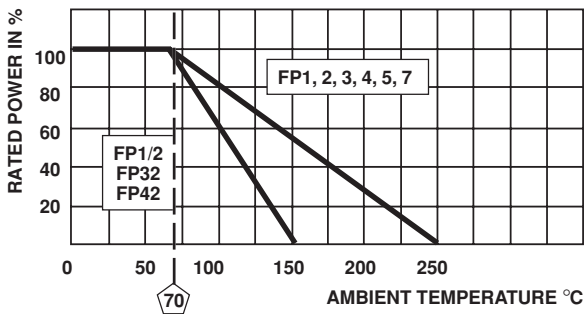
### FEATURES

- Small physical size.
- Low cost.
- FP resistors have the ability to withstand overloads up to 100 times rated power without any trace of flame.
- Exceptional frequency characteristics.
- Especially suited for circuitry where functions, environments and duty cycles demand power resistors.
- Electroplated tin-lead solder finish leads.
- Tighter tolerances available on request

### STANDARD ELECTRICAL SPECIFICATIONS

MODEL	POWER RATING			VOLTAGE RATING	RESISTANCE RANGE $\Omega$	STANDARD TOLERANCE %	TEMPERATURE COEFFICIENT ppm/ $^{\circ}\text{C}$
	$P_{25^{\circ}\text{C}}$ W	$P_{40^{\circ}\text{C}}$ W	$P_{70^{\circ}\text{C}}$ W				
FP1/2	—	—	0.5	350	10R - 1M	1, 2, 5, 10	150
FP1	—	—	1	500	10R- 1M	1, 2, 5, 10	150
FP32	—	—	1	500	10R - 1M	1, 2, 5, 10	150
FP2	3.5	3	2	500	9R - 1.5M	1, 2, 5, 10	150
FP42	—	—	2	500	10R - 1.5M	1, 2, 5, 10	150
FP3	4	4	3	500	9R - 1M	1, 2, 5, 10	150
FP4	5.5	5	4	500	6R - 1M	1, 2, 5, 10	150
FP5	6.5	6	5	600	7R - 1M	1, 2, 5, 10	150
FP7	7.5	—	7	700	8R - 1M	1, 2, 5, 10	150
FP10	—	10	—	700	8R - 1M	1, 2, 5, 10	150
FP67	5	—	—	500	5R - 19K	1, 2, 5, 10	150
FP69	3	—	2	500	2R6- 1.5M	1, 2, 5, 10	150

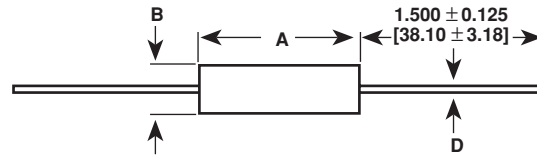
### DERATING



### ORDERING INFORMATION

FP MODEL	2 SIZE	5112 VALUE	F TOLERANCE
	1/2 4	<b>Examples:</b>	F = $\pm$ 1%
	1 5	10R0 = 10 $\Omega$	G = $\pm$ 2%
	32 7	1000 = 100 $\Omega$	J = $\pm$ 5%
	2 10	1001 = 1K	K = $\pm$ 10%
	42 67	5112 = 51.1K $\Omega$	
	3 69		

**DIMENSIONS**



MODEL	DIMENSIONS in inches [millimeters]		
	A	B	D
FP1/2	0.360 ± 0.020 [9.14 ± 0.51]*	0.138 + 0.012 - 0.023 [3.51 + 0.31 - 0.58]	0.032 [0.81]
FP1	0.560 ± 0.031 [14.22 ± 0.79]	0.190 + 0.007 - 0.015 [4.83 + 0.18 - 0.38]	0.032 [0.81]
FP32	0.560 ± 0.031 [14.22 ± 0.79]	0.190 + 0.007 - 0.015 [4.83 + 0.18 - 0.38]	0.040 [1.02]
FP2	0.687 ± 0.031 [17.45 ± 0.79]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 [0.81]
FP42	0.687 ± 0.031 [17.45 ± 0.79]	0.300 ± 0.020 [7.62 ± 0.51]	0.045 [1.14]
FP3	0.900 ± 0.031 [22.86 ± 0.79]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 [0.81]
FP4	1.53 ± 0.035 [38.86 ± 0.89]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 [0.81]
FP5	1.71 ± 0.035 [43.43 ± 0.89]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 [0.81]
FP7	2.04 ± 0.035 [51.82 ± 0.89]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 [0.81]
FP10	2.04 ± 0.035 [51.82 ± 0.89]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 [0.81]
FP67	0.900 ± 0.031 [22.86 ± 0.79]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 [0.81]
FP69	0.516 ± 0.021 [13.11 ± 0.53]	0.225 ± 0.012 [5.72 ± 0.31]	0.032 [0.81]

\*Clean lead to clean lead dimensions on FP1/2 are .437" [11.10mm] maximum.

MARKING			
— DALE	— Value	— Tolerance	— Model and case size (Date and source code included on some styles.)
± 1% tolerance parts are marked with 5 color bands. 5 band, EIA Standard RS196.		± 2%, ± 5% and ± 10% tolerance parts are marked with 4 color bands. 4 band commercial, EIA Standard.	

TEST	MAXIMUM ΔR ± %											
	FP1/2	FP1	FP32	FP2	FP42	FP3	FP4	FP5	FP7	FP10	FP67	FP69
Short Time Overload	0.5	1.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Low Temperature Operation	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.25	0.25
Moisture Resistance	1.0	1.5	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Shock	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Vibration	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Temperature Cycle	1.0	1.0	1.0	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.5
Load Life (1000 Hours Rated Cond.)	1.0	2.0	2.0	5.0	2.0	5.0	5.0	5.0	5.0	5.0	5.0	3.0
Terminal Strength	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Dielectric Withstanding Voltage	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.25	0.25
Effect Solder Heat	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.25	0.25