

## Metal Film 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 or lead (Pb)-free solder finish leads
- Tighter tolerances available on request
- Lead (Pb)-free version is RoHS compliant



RoHS\*  
COMPLIANT

### STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING			VOLTAGE RATING	RESISTANCE RANGE $\Omega$	STANDARD TOLERANCE %	TEMPERATURE COEFFICIENT ppm/ $^{\circ}$ C
		$P_{25^{\circ}\text{C}}$ W	$P_{40^{\circ}\text{C}}$ W	$P_{70^{\circ}\text{C}}$ W				
FP01/2	FP1/2	-	-	0.5	350	10R - 1M	1, 2, 5, 10	150
FP0001	FP1	-	-	1	500	10R - 1M	1, 2, 5, 10	150
FP0032	FP32	-	-	1	500	10R - 1M	1, 2, 5, 10	150
FP0002	FP2	3.5	3	2	500	9R - 1M5	1, 2, 5, 10	150
FP0042	FP42	-	-	2	500	10R - 1M5	1, 2, 5, 10	150
FP0003	FP3	4	4	3	500	9R - 1M	1, 2, 5, 10	150
FP0004	FP4	5.5	5	4	500	6R - 1M	1, 2, 5, 10	150
FP0005	FP5	6.5	6	5	600	7R - 1M	1, 2, 5, 10	150
FP0007	FP7	7.5	-	7	700	8R - 1M	1, 2, 5, 10	150
FP0010	FP10	-	10	-	700	8R - 1M	1, 2, 5, 10	150
FP0067	FP67	5	-	-	500	5R - 19K	1, 2, 5, 10	150
FP0069	FP69	3	-	2	500	2R6 - 1M5	1, 2, 5, 10	150

### GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: FP000251K1F9251B8 (preferred part numbering format)

F P 0 0 0 2 5 1 K 1 F 9 2 5 1 B 8

GLOBAL MODEL  
(see Standard Electrical Specifications Table)

RESISTANCE VALUE  
R = Decimal  
K = Thousand  
M = Million  
10R0 = 10  $\Omega$   
1K30 = 1.3 k $\Omega$   
1M00 = 1.0 M $\Omega$

TOLERANCE CODE  
F =  $\pm$  1 %  
G =  $\pm$  2 %  
J =  $\pm$  5 %  
K =  $\pm$  10 %

SPEC CODES  
(see Spec Codes Table)

PACKAGING <sup>(1)</sup>  
EK = Lead (Pb)-free, Bulk  
EA = Lead (Pb)-free, T/R  
B8 = Tin/Lead, Bulk  
CH = Tin/Lead, T/R (750 pieces)  
CJ = Tin/Lead, T/R (1000 pieces)  
G1 = Tin/Lead, T/R (600 pieces)

Historical Part Number: FP25112F B8 (will continue to be accepted)

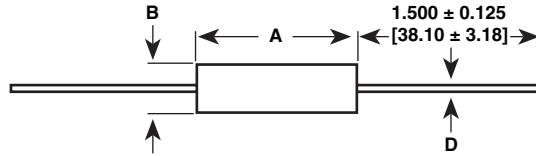


**Note:**

<sup>(1)</sup> Some packaging codes are model specific

\* Pb containing terminations are not RoHS compliant, exemptions may apply

**DIMENSIONS**

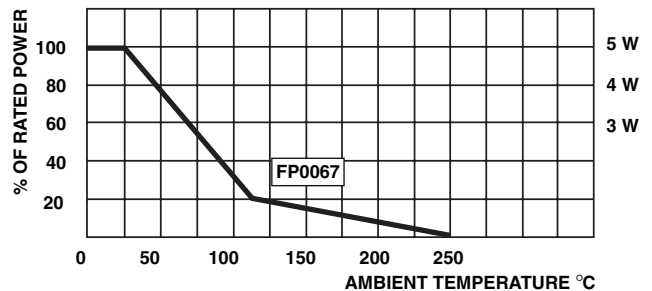
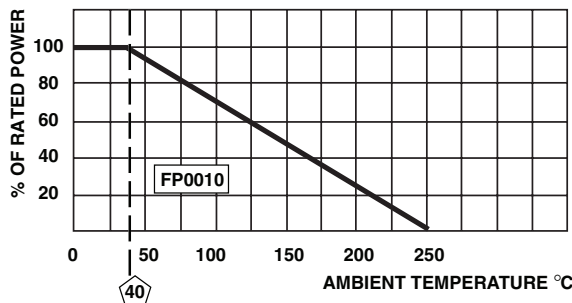
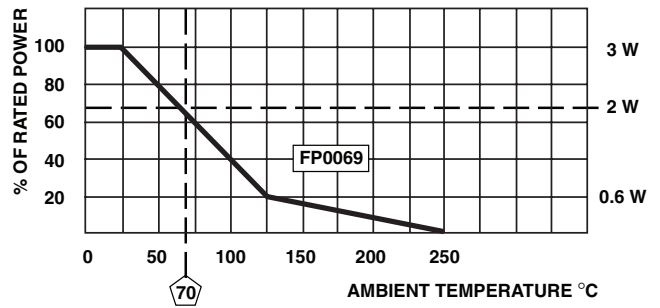
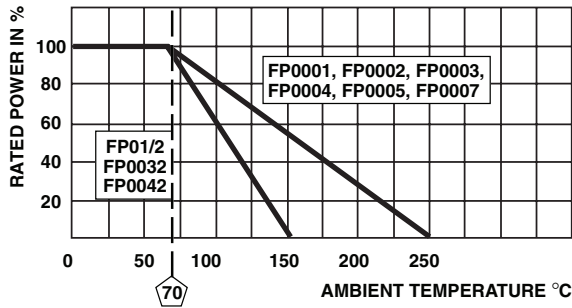


GLOBAL MODEL	DIMENSIONS in inches [millimeters]		
	A	B	D
FP01/2	0.360 ± 0.020 [9.14 ± 0.51] <sup>(1)</sup>	0.138 + 0.012 - 0.023 [3.51 + 0.31 - 0.58]	0.032 ± 0.002 [0.81 ± 0.05]
FP0001	0.560 ± 0.031 [14.22 ± 0.79]	0.190 + 0.007 - 0.015 [4.83 + 0.18 - 0.38]	0.032 ± 0.002 [0.81 ± 0.05]
FP0032	0.560 ± 0.031 [14.22 ± 0.79]	0.190 + 0.007 - 0.015 [4.83 + 0.18 - 0.38]	0.040 ± 0.002 [1.02 ± 0.05]
FP0002	0.687 ± 0.031 [17.45 ± 0.79]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 ± 0.002 [0.81 ± 0.05]
FP0042	0.687 ± 0.031 [17.45 ± 0.79]	0.300 ± 0.020 [7.62 ± 0.51]	0.045 ± 0.002 [1.14 ± 0.05]
FP0003	0.900 ± 0.031 [22.86 ± 0.79]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 ± 0.002 [0.81 ± 0.05]
FP0004	1.530 ± 0.035 [38.86 ± 0.89]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 ± 0.002 [0.81 ± 0.05]
FP0005	1.710 ± 0.035 [43.43 ± 0.89]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 ± 0.002 [0.81 ± 0.05]
FP0007	2.040 ± 0.035 [51.82 ± 0.89]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 ± 0.002 [0.81 ± 0.05]
FP0010	2.040 ± 0.035 [51.82 ± 0.89]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 ± 0.002 [0.81 ± 0.05]
FP0067	0.900 ± 0.031 [22.86 ± 0.79]	0.300 ± 0.020 [7.62 ± 0.51]	0.032 ± 0.002 [0.81 ± 0.05]
FP0069	0.516 ± 0.021 [13.11 ± 0.53]	0.225 ± 0.012 [5.72 ± 0.31]	0.032 ± 0.002 [0.81 ± 0.05]

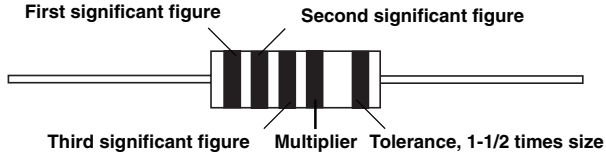
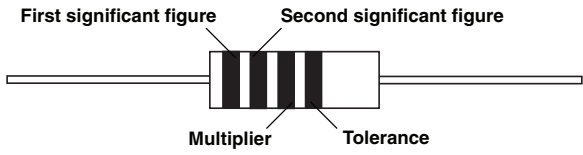
**Note:**

<sup>(1)</sup> Clean lead to clean lead dimensions on FP1/2 are 0.347" [11.10 mm] maximum.

**DERATING**



SPEC CODES			
GLOBAL MODEL	SPEC	RESISTOR TOLERANCE	DESCRIPTION
FP01/2	5605	1, 2, 5, 10	Color banded, 4 or 5 bands depending on tolerance
	5610	1, 2, 5, 10	Alphanumeric marking
FP0001	6200	2, 5, 10	Color banded, 4 bands
	6201	1	Color banded, 5 bands
FP0032	6601	1	Color banded, 5 bands
	6602	2, 5, 10	Color banded, 4 bands
FP0002	9251	1, 2, 5, 10	Alphanumeric marking
FP0042	9201	1	Color banded, 5 bands
	9202	2, 5, 10	Color banded, 4 bands
FP0003	9300	1, 2, 5, 10	Alphanumeric marking
	9320	2, 5, 10	Color banded, 4 bands
	9330	1	Color banded, 5 bands
FP0004	9400	1, 2, 5, 10	Alphanumeric marking
FP0005	9500	1, 2, 5, 10	Alphanumeric marking
FP0007	9700	1, 2, 5, 10	Alphanumeric marking
FP0010	9800	1, 2, 5, 10	Alphanumeric marking
FP0067	9550	1, 2, 5, 10	Alphanumeric marking
FP0069	7500	1, 2, 5, 10	Alphanumeric marking
	7536	2, 5, 10	Color banded, 4 bands
	7538	1	Color banded, 5 bands

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



<b>PERFORMANCE</b>												
TEST	MAXIMUM $\Delta R \pm \%$											
	FP01/2	FP0001	FP0032	FP0002	FP0042	FP0003	FP0004	FP0005	FP0007	FP0010	FP0067	FP0069
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 h Rated Conditions)	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



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