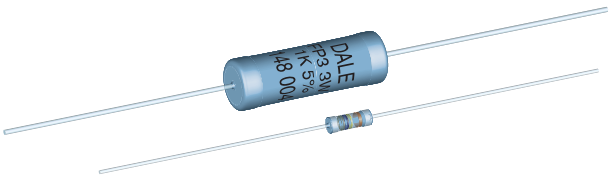
Metal Film Resistors, Industrial, Flameproof



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
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

e3 RoHS* COMPLIANT

Note

* Lead (Pb)-containing terminations are not RoHS-compliant. Exemptions may apply.

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	HISTORICAL MODEL	POWER RATING $P_{25\,°C}$ W	POWER RATING $P_{40\,°C}$ W	POWER RATING $P_{70\,°C}$ W	MAXIMUM WORKING VOLTAGE (1) V	RESISTANCE RANGE (2) Ω	TOLERANCE ± %	TEMPERATURE COEFFICIENT ± ppm/°C
FP01/2	FP1/2	-	-	0.5	350	10 to 1M	1, 2, 5, 10	150
FP0001	FP1	-	-	1	500	10 to 1M	1, 2, 5, 10	150
FP0032	FP32	-	-	1	500	10 to 1M	1, 2, 5, 10	150
FP0002	FP2	3.5	3	2	500	25 to 125K	1, 2, 5, 10	150
FP0042	FP42	-	-	2	500	25 to 125K	1, 2, 5, 10	150
FP0003	FP3	4	4	3	500	22 to 125K	1, 2, 5, 10	150
FP0004	FP4	5.5	5	4	500	70 to 125K	1, 2, 5, 10	150
FP0005	FP5	6.5	6	5	600	70 to 125K	1, 2, 5, 10	150
FP0007	FP7	7.5	-	7	700	25 to 125K	1, 2, 5, 10	150
FP0010	FP10	-	10	-	700	25 to 125K	1, 2, 5, 10	150
FP0067	FP67	5	-	-	500	35 to 19K	1, 2, 5, 10	150
FP0069	FP69	3	-	2	500	25 to 126K	1, 2, 5, 10	150

Notes

(1) Continuous working voltage shall be $\sqrt{P \times R}$ or maximum working voltage, whichever is less.

(2) Contact factory for values outside these published range.

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	RESISTANCE VALUE	TOLERANCE CODE	SPEC CODES	PACKAGING (3)
(See Standard Electrical Specifications table)	**R** = Ω **K** = kΩ **M** = MΩ **10R0** = 10 Ω **1K30** = 1.3 kΩ **1M00** = 1.0 MΩ	**F** = ± 1 % **G** = ± 2 % **J** = ± 5 % **K** = ± 10 %	(See Spec Codes table)	**EK** = Lead (Pb)-free, strip **EL** = Lead (Pb)-free, lacer **EA** = Lead (Pb)-free, T/R **B8** = Tin/lead, strip **LB** = Tin/lead, lacer **CH** = Tin/lead, T/R (750 pieces) **CJ** = Tin/lead, T/R (1000 pieces) **G1** = Tin/lead, T/R (600 pieces)

Historical Part Number: FP2 5112 F B8 (will continue to be accepted)

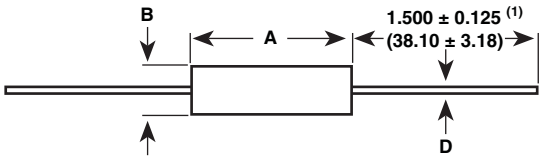
FP2	5112	F	B8
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

Notes

(3) Some packaging codes are model specific.

(4) For additional information on packaging, refer to the Through Hole Resistor Packaging document (www.vishay.com/doc?31544).

DIMENSIONS in inches (millimeters)



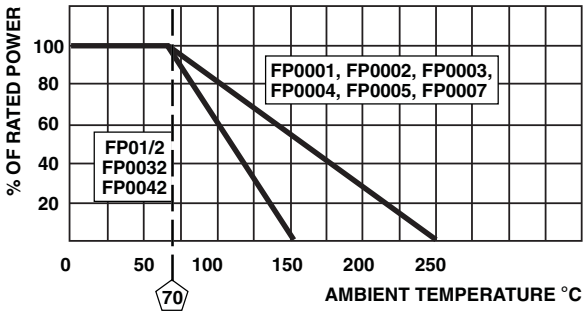
GLOBAL MODEL	A	B	D
FP01/2	0.360 ± 0.020 (9.14 ± 0.51) (2)	0.138 + 0.012 - 0.023 (3.51 + 0.31 - 0.58)	0.032 ± 0.002 (0.81 ± 0.05)
FP0001	0.560 ± 0.031 (14.22 ± 0.79)	0.190 + 0.005 - 0.030 (4.83 + 0.13 - 0.76)	0.032 ± 0.002 (0.81 ± 0.05)
FP0032	0.560 ± 0.031 (14.22 ± 0.79)	0.190 + 0.005 - 0.030 (4.83 + 0.13 - 0.76)	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)

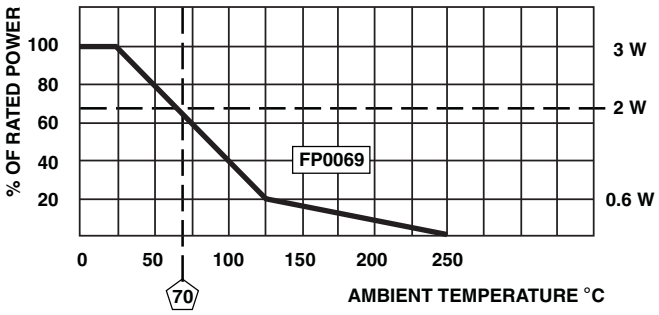
Notes

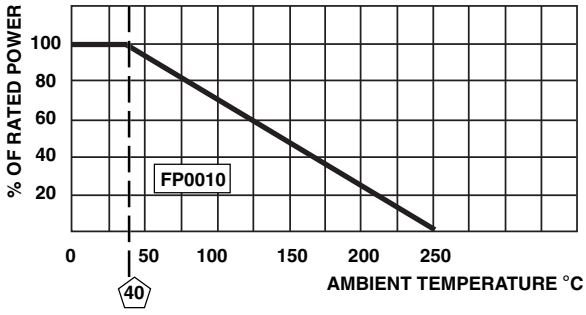
(1) Lead length for product in strip pack. For product supplied in Tape and Reel, the actual lead length would be based on body size, tape spacing and lead trim.

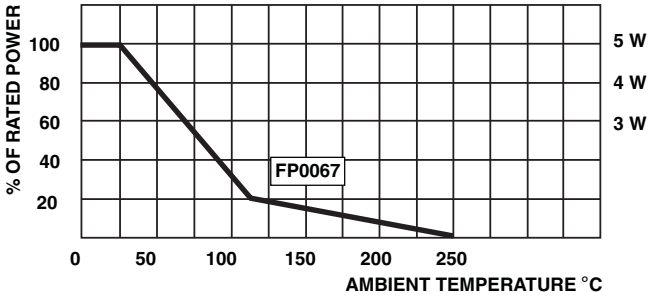
(2) Clean lead to clean lead dimensions on FP1/2 are 0.347" (11.10 mm) maximum.

DERATING









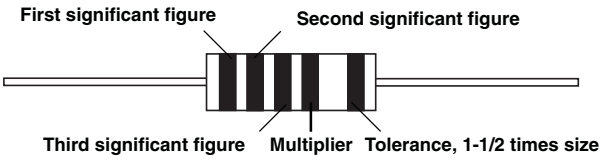
SPEC CODES

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

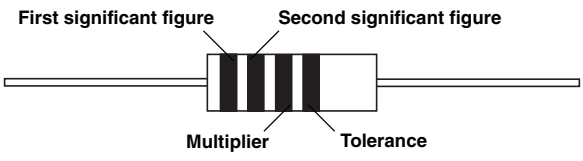
MARKING

- DALE - Value - Tolerance - Model and case size
(Date and source code included on some styles)

± 1 % tolerance parts are marked with 5 color bands. 5 bands, EIA Standard RS196.



± 2 %, ± 5 % and ± 10 % tolerance parts are marked with 4 color bands. 4 band commercial, EIA Standard.



PERFORMANCE

TEST	MAXIMUM ΔR (TYPICAL TEST LOTS) ± %											
	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

PACKAGING

GLOBAL MODEL	PACKAGING TYPE	PACKAGING CODE	
		LEAD (Pb)-BEARING	LEAD (Pb)-FREE
FP01/2, FP0001, FP0032, FP0069	Strip	B8	EK
	Tape/reel	CJ	EA
FP0002, FP0003, FP0042, FP0067	Strip	B8	EK
	Tape/reel	CH	EA
FP0004	Lacer	LB	EL
	Tape/reel	G1	EA
FP0005, FP0007, FP0010	Lacer	LB	EL

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Vishay:

FP0003470RF9300B8 FP003210R0J6602B8 FP003212R0J6602B8 FP00012K00J6200B8 FP0002470RJ9251B8 FP01\275K0G5605BF FP01\256R2F5605BF FP0001560RJ6200B8 FP01\2200KG5605BF FP0042100RJ9203B8 FP0042150RJ9203B8 FP0002150RG9251B8 FP0042130RJ9203B8 FP00321K50J6602B8 FP01\25K60G5605BF FP000210K0F9251B8 FP01\239K0G5605BF FP01\236K0G5605BF FP006962R0J7500B8 FP0001240RJ6200B8 FP000122K6F6200B8 FP0001470RJ6200CJ FP01\25K60F5605BF FP00692K20J7500B8 FP00022K40J9251B8 FP0005100KJ9500B8 FP0003909RF9300B8 FP0001200KF6200B8 FP0002330RJ9251B8 FP0001330RJ6200B8 FP0002180RJ9251B8 FP0001120RJ6200B8 FP0002180RG9251B8 FP000256K0J9251B8 FP01\2750RG5605BF FP01\2110KG5605BF FP000133K2F6200B8 FP0001330KJ6200B8 FP01\2620KG5605BF FP0001430RG6200B8 FP001082R0J9800B8 FP01\218K0G5605BF FP00079K09F9700B8 FP006962K0J7500B8 FP0003225KJ9300B8 FP42 100K 5% FP2 51K 5% FP000147K0G6200B8 FP1 27 2% FP2P 510 5% FP1/2 620 2%TR FP69 7.5K 5%TR FP1 22 5% FP3 1K 5%TR FP32 15 1% FP2 475 1% FP000210R0J9251EK FP1 30K 5%TR FP69 100 1% FP0003330RJ9320EK FP42 2.2K 5% FP006968R0J7536A5 FP00691K50J7500EA FP2 20K 5% FP0004300RJ9400B8 FP1/2 1K 5% FP00694K75F7500EA FP0001240KJ6200EA FP01\2470KG5605BF FP0069680RJ7500B8 FP01\227R4F5605BF FP01\2301RF5605BF FP00693K83F7500B8 FP01\2680RG5605BF FP0069499RF7500B8 FP00692K74F7500B8 FP00696K20J7500B8 FP00696K80J7500B8 FP01\22K70G5605BF FP001050R0F9800B8 FP0002150KJ9251B8 FP0001560RG6200B8 FP0002680RG9251B8 FP00015K10J6200B8 FP01\224K0G5605BF FP000315K0J9300B8 FP00023K90G9251B8 FP0002220RG9251B8 FP01\2200RF5605BF FP01\2845KF5605BF FP0001280KF6200B8 FP000110R0F6200B8 FP00011K00G6200B8 FP000291R0F9251B8 FP0002390RG9251B8 FP01\21K30G5605BF FP0003221RF9300B8 FP000368R0J9300B8 FP00033K90F9300B8 FP0042300RJ9203B8