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Metal Film Resistors, Pulse Withstanding Protective



FEATURES





- A thicker tin oxide power film system provides lightning surge absorption capabilities
- Higher turns ratio and glass substrate provide sharper fusing characteristic than the standard flameproof product line



- Protect against a variety of electrical hazards
 which can change or destroy sensitive
 electronic equipment including high energy voltage
 surges caused by power line anomalies (direct power
 crosses or inductively coupled effects) and other
 momentary overvoltages
- Material categorization: For definitions of compliance please see <u>www.vishav.com/doc?99912</u>

Note

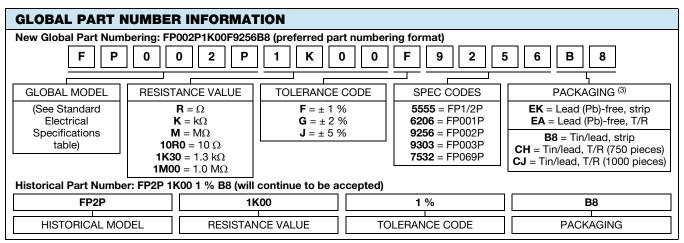
* Lead (Pb)-containing terminations are not RoHS-compliant. Exemptions may apply.

STANDARD ELECTRICAL SPECIFICATIONS							
GLOBAL MODEL	HISTORICAL MODEL	POWER RATING P _{70 °C} W	RESISTANCE RANGE (2) Ω	TOLERANCE ± %	CUTOFF VALUE (1)		
FP1/2P	FP1/2P	0.5	10 to 1M	1, 2, 5	2K00		
FP001P	FP1P	1	10 to 1M	1, 2, 5	1K00		
FP002P	FP2P	2	355 to 125K	1, 2, 5	355R		
FP003P	FP3P	3	46.4 to 125K	1, 2, 5	250R		
FP069P	FP69P	2	25 to 126K	1, 2, 5	400R		

Notes

- (1) Pulse withstanding capabilities are value dependent. Values above the cutoff value will meet all of the surge test requirements shown on the following pages.
- (2) Contact factory for values outside these published ranges.

MARKING		
	- DALE - Value	
	- Tolerance - Style and case size - Date code (year/week)	



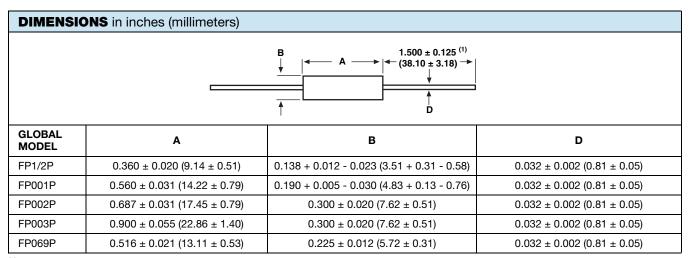
Notes

- (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).



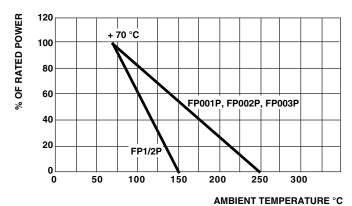
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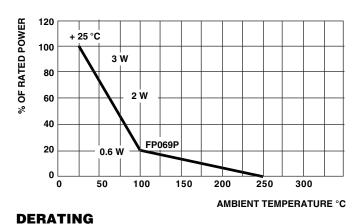


Note

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



DERATING





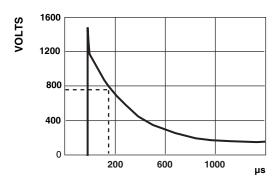
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LIGHTNING PULSE WAVE FORMS

Lightning pulse wave forms are defined by three numbers:

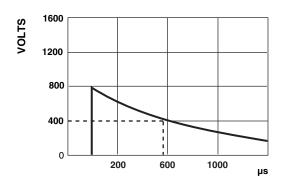
- Maximum time to reach peak voltage level (typically 10 μs)
- Minimum time for voltage to decrease to half value
- The peak voltage level

Three examples are shown below.



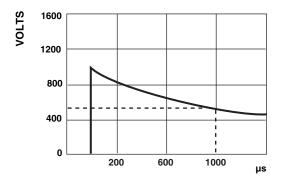
10 by 160 µs up to 1500 V

FCC - Longitudinal Surge



10 by 560 µs up to 800 V

FCC - Metallic Surge



10 by 1000 μs up to 1000 V

REA - Current Surge

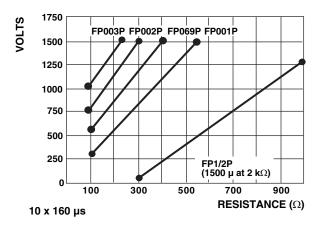


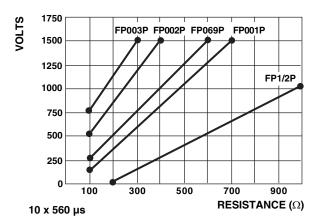


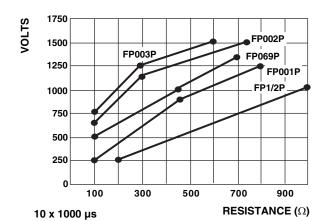
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These graphs show the relationship value and pulse withstanding voltage for FP1/2P thru FP003P using a 1.0 % resistance shift after 10 pulses as the figure of merit. The stable operating region of each package is on the right side of the appropriate line.







PACKAGING							
GLOBAL MODEL	PACKAGING TYPE	PACKAGING CODE					
GLOBAL MODEL		LEAD (Pb)-BEARING	LEAD (Pb)-FREE				
FP1/2P, FP001P, FP069P	Strip	B8	EK				
FF 1/2F, FF00 1F, FF009F	Tape/reel	CJ	EA				
FP002P, FP003P	Strip	B8	EK				
FFUU2F, FFUU3F	Tape/reel	CH	EA				



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