

FRV Series



Application

Line Voltage Power Supply, Transformer and Appliances

Product Features

Low hold current, Solid state, Radial leaded product ideal for up to 265V_{AC/DC}



Maximum Operation Current

0.05A~2.00A

Maximum Operating Voltage

240V_{AC/DC}

Maximum Interrupt Voltage

265V_{AC/DC}



Temperature Range

-40°C to 85°C

Agency Recognition

AGENCY	AGENCY FILE NUMBER
	UL(E211981)
	C-UL(E211981)
	TÜV (R50087018)



SVHC Compliant

Electrical Characteristics (23°C)

Part Number	Hold Current	Trip Current	Max. Time to trip	Max. Current	Rated Voltage	Max. Int. Voltage	Typ. Power	Resistance	
	I _H , A	I _T , A	at 5xI _H , S	I _{MAX} , A	V _{MAX} , V _{AC/DC}	V _{I-MAX} , V _{AC/DC}	P _d , W	R _{MIN}	R _{1MAX}
	I _H , A	I _T , A	at 5xI _H , S	I _{MAX} , A	V _{MAX} , V _{AC/DC}	V _{I-MAX} , V _{AC/DC}	P _d , W	Ohms	Ohms
FRV005-240F	0.05	0.12	15.0	1.0	240	265	0.70	18.50	65.00
FRV008-240F	0.08	0.19	15.0	1.2	240	265	0.80	7.40	26.00
FRV012-240F	0.12	0.30	15.0	1.2	240	265	1.00	3.00	12.00
FRV016-240F	0.16	0.37	15.0	2.0	240	265	1.40	2.50	7.80
FRV025-240F	0.25	0.56	18.5	3.5	240	265	1.50	1.30	3.80
FRV033-240F	0.33	0.74	21.0	4.5	240	265	1.70	0.83	2.60
FRV040-240F	0.40	0.90	24.0	5.5	240	265	2.00	0.60	1.90
FRV055-240F	0.55	1.25	26.0	7.0	240	265	3.40	0.45	1.45
FRV075-240F	0.75	1.50	18.0	7.5	240	265	2.60	0.32	0.84
FRV100-240F	1.00	2.00	21.0	10.0	240	265	2.90	0.22	0.58
FRV125-240F	1.25	2.50	23.0	12.5	240	265	3.30	0.17	0.44
FRV150-240F	1.50	3.00	23.0	15.0	240	265	3.70	0.12	0.32
FRV200-240F	2.00	4.00	28.0	20.0	240	265	4.50	0.09	0.22

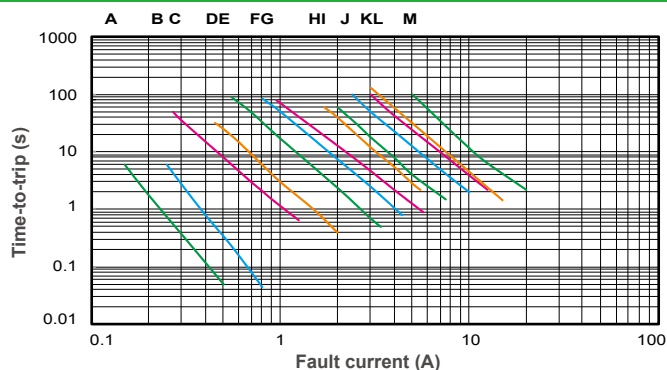
Thermal Derating for PPTC Device at Various Ambient Temperatures

TEMPERATURE	-40°C	-20°C	0°C	23°C	30°C	40°C	50°C	60°C	70°C	85°C
DERATING %	150%	134%	116%	100%	90%	81%	74%	65%	58%	44%

IV - Radial Leaded PPTC

Typical Time-To-Trip at 23°C

A = FRV005-240F	H = FRV055-240F
B = FRV008-240F	I = FRV075-240F
C = FRV012-240F	J = FRV100-240F
D = FRV016-240F	K = FRV125-240F
E = FRV025-240F	L = FRV150-240F
F = FRV033-240F	M = FRV200-240F
G = FRV040-240F	



FRV Product Dimensions (mm)

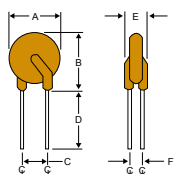


Fig.1

Lead Size : 24AWG
Φ 0.51 mm Diameter

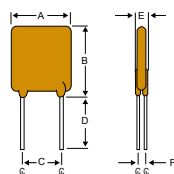


Fig.2

Lead Size : 22AWG
Φ 0.65 mm Diameter

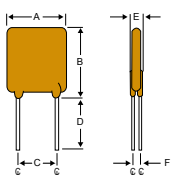


Fig.3

Lead Size : 20AWG
Φ 0.81 mm Diameter

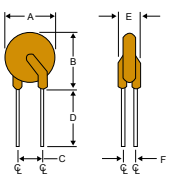


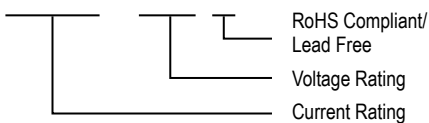
Fig.4

Lead Size : 20AWG
Φ 0.81 mm Diameter

Part Number	Fig	A	B	C	D	E	F
		Max.	Max.	Typ.	Min.	Max.	Typ.
FRV005-240F	1	8.3	10.7	5.1	7.6	3.8	1.6
FRV008-240F	1	8.3	10.7	5.1	7.6	3.8	1.6
FRV012-240F	1	8.3	10.7	5.1	7.6	3.8	1.6
FRV016-240F	1	9.9	12.5	5.1	7.6	3.8	1.6
FRV025-240F	2	9.6	17.4	5.1	7.6	3.8	1.8
FRV033-240F	2	11.4	16.5	5.1	7.6	3.8	1.8
FRV040-240F	2	11.5	19.5	5.1	7.6	3.8	1.8
FRV055-240F	3	14.0	21.7	5.1	7.6	4.1	1.9
FRV075-240F	3	11.5	23.4	5.1	7.6	4.8	1.9
FRV100-240F	4	18.7	24.4	10.2	7.6	5.1	1.9
FRV125-240F	4	21.2	27.4	10.2	7.6	5.3	1.9
FRV150-240F	4	23.4	30.9	10.2	7.6	5.3	1.9
FRV200-240F	3	24.9	33.8	10.2	7.6	6.1	1.9

Part Numbering System

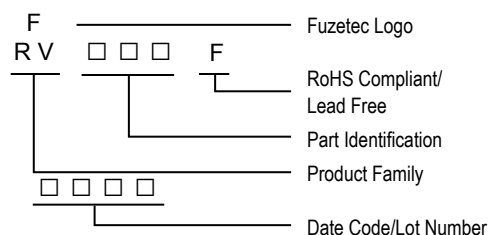
FRV □ □ □ - □ □ □ F



Part Marking System



Example



Package Information

Part Number	Standard Package
FRV005-240F~FRV016-240F	500 Pcs/Bag, 2.0K Reel/Tape
FRV025-240F	300 Pcs/Bag, 2.0K Reel/Tape
FRV033-240F~FRV040-240F	200 Pcs/Bag, 2.0K Reel/Tape
FRV055-240F	200 Pcs/Bag, 1.0K Reel/Tape
FRV075-240F	200 Pcs/Bag, 2.0K Reel/Tape
FRV100-240F~FRV200-240F	100 Pcs/Bag

Physical specifications

Lead material	FRV005-240F~FRV016-240F Tin plated copper clad steel, 24AWG.
	FRV025-240F~FRV040-240F Tin plated copper, 22AWG.
	FRV055-240F~FRV200-240F Tin plated copper, 20AWG.
Soldering characteristics	MIL-STD-202, Method 208E.
Insulating coating	Flame retardant epoxy, meets UL-94V-0 requirement.

Warning :



- Each product should be carefully evaluated and tested for their suitability of application.
- Operation beyond the specified maximum ratings or improper use may result in damage and possible electrical arcing and/or flame.
- PPTC device are intended for occasional overcurrent protection. Application for repeated overcurrent condition and/or prolonged trip are not anticipated.
- Avoid contact of PPTC device with chemical solvent, including some inert material such as silicone based oil, lubricant and etc. Prolonged contact will damage the device performance.
- Additional protection mechanism are strongly recommended to be used in conjunction with the PPTC device for protection against abnormal or failure conditions.
- Avoid use of PPTC device in a constrained space such as potting material, housing and containers where have limited space to accommodate device thermal expansion and/or contraction.

NOTE : All Specifications subject to change without notice.