

 FUZETEC TECHNOLOGY CO., LTD.	NO.	PQ02-01E		
	Product Specification and Approval Sheet	Version	4	Page

Radial Leaded PTC Resettable Fuse: FRU Series

1. Summary

- (a) **Applications:** Wide variety of electronic equipment
- (b) **Product Features:** Low resistance, High hold current, Solid state, Radial leaded product ideal for up to 30V
- (c) **Operation Current:** 900mA~9.0A
- (d) **Maximum Voltage:** 30V
- (e) **Temperature Range :** -40°C to 85°C

2. Agency Recognition

UL: File No. E211981
C-UL: File No. E211981
TÜV: File No. R3-50004084

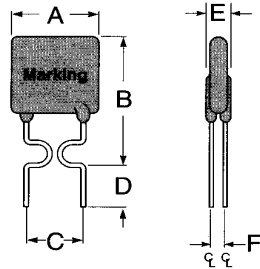
3. Electrical Characteristics (23°C)

Part Number	Hold Current	Trip Current	Max.Time To Trip	Maximum Current	Rated Voltage	Typical Power	Resistance Tolerance	
							R _{MIN}	R _{IMAX}
							ohms	ohms
FRU090-30	0.90	1.80	5.9	40	30	0.6	0.070	0.22
FRU110-30	1.10	2.20	6.6	40	30	0.7	0.050	0.17
FRU135-30	1.35	2.70	7.3	40	30	0.8	0.040	0.13
FRU160-30	1.60	3.20	8.0	40	30	0.9	0.030	0.11
FRU185-30	1.85	3.70	8.7	40	30	1.0	0.030	0.09
FRU250-30	2.50	5.00	10.3	40	30	1.2	0.020	0.07
FRU300-30	3.00	6.00	10.8	40	30	2.0	0.020	0.08
FRU400-30	4.00	8.00	12.7	40	30	2.5	0.010	0.05
FRU500-30	5.00	10.00	14.5	40	30	3.0	0.010	0.05
FRU600-30	6.00	12.00	16.0	40	30	3.5	0.005	0.04
FRU700-30	7.00	14.00	17.5	40	30	3.8	0.005	0.03
FRU800-30	8.00	16.00	18.8	40	30	4.0	0.005	0.02
FRU900-30	9.00	18.00	20.0	40	30	4.2	0.005	0.02

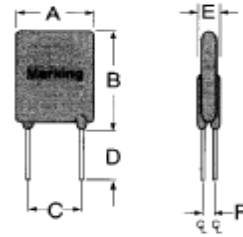
I_H=Hold current-maximum current at which the device will not trip at 23°C still air.
 I_T=Trip current-minimum current at which the device will always trip at 23°C still air.
 V_{MAX}=Maximum voltage device can withstand without damage at its rated current.
 I_{MAX}= Maximum fault current device can withstand without damage at rated voltage (V_{MAX}).
 Pd=Maximum power dissipated from device when in tripped state in 23 °C still air environment.
 R_{MIN}=Minimum device resistance at 23°C.
 R_{IMAX}=Maximum device resistance at 23°C, 1 hour after tripping.
 Physical specifications:
 Lead material: FRU090~FRU250 Tin plated copper, 24 AWG.
 FRU300~FRU900 Tin plated copper, 20 AWG.
 Soldering characteristics:MIL-STD-202, Method 208E.
 Insulating coating:Flame retardant epoxy, meets UL-94V-0 requirement.



4. Production Dimensions (millimeter)



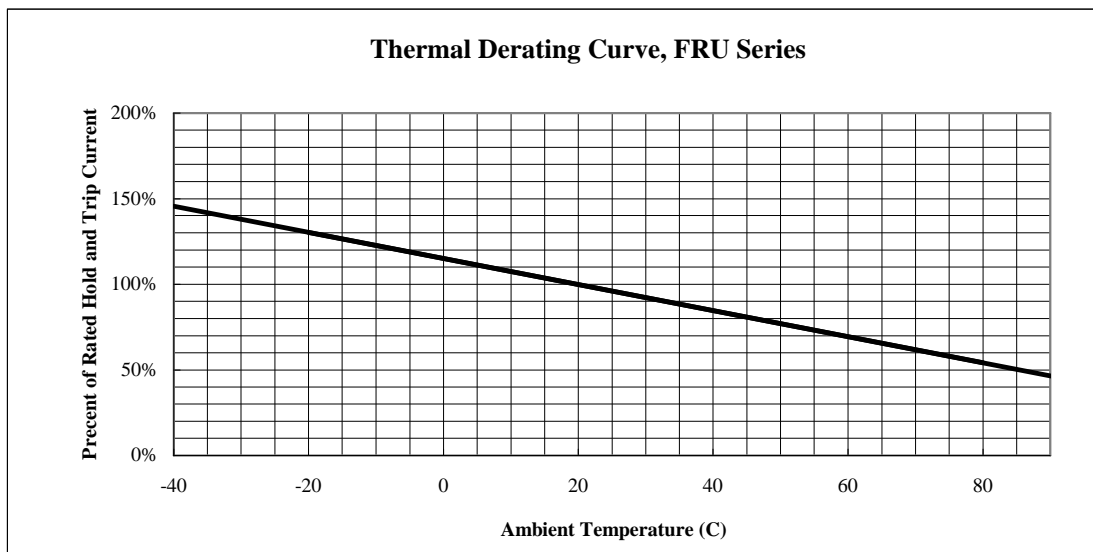
FRU 090-30 ~ FRU 250-30
Lead Size: 24AWG
Φ 0.51 mm Diameter



FRU 300-30 ~ FRU 900-30
Lead Size: 20AWG
Φ 0.81 mm Diameter

Part Number	A	B	C	D	E	F
	Maximum	Maximum	Typical	Minimum	Maximum	Typical
FRU090-30	7.4	12.2	5.1	7.6	3.0	0.9
FRU110-30	7.4	14.2	5.1	7.6	3.0	0.9
FRU135-30	8.9	13.5	5.1	7.6	3.0	0.9
FRU160-30	8.9	15.2	5.1	7.6	3.0	0.9
FRU185-30	10.2	15.7	5.1	7.6	3.0	0.9
FRU250-30	11.4	18.3	5.1	7.6	3.0	0.9
FRU300-30	11.4	17.3	5.1	7.6	3.0	1.2
FRU400-30	14.0	20.1	5.1	7.6	3.0	1.2
FRU500-30	14.0	24.9	10.2	7.6	3.0	1.2
FRU600-30	16.5	24.9	10.2	7.6	3.0	1.2
FRU700-30	19.1	26.7	10.2	7.6	3.0	1.2
FRU800-30	21.6	29.2	10.2	7.6	3.0	1.2
FRU900-30	24.1	29.7	10.2	7.6	3.0	1.2

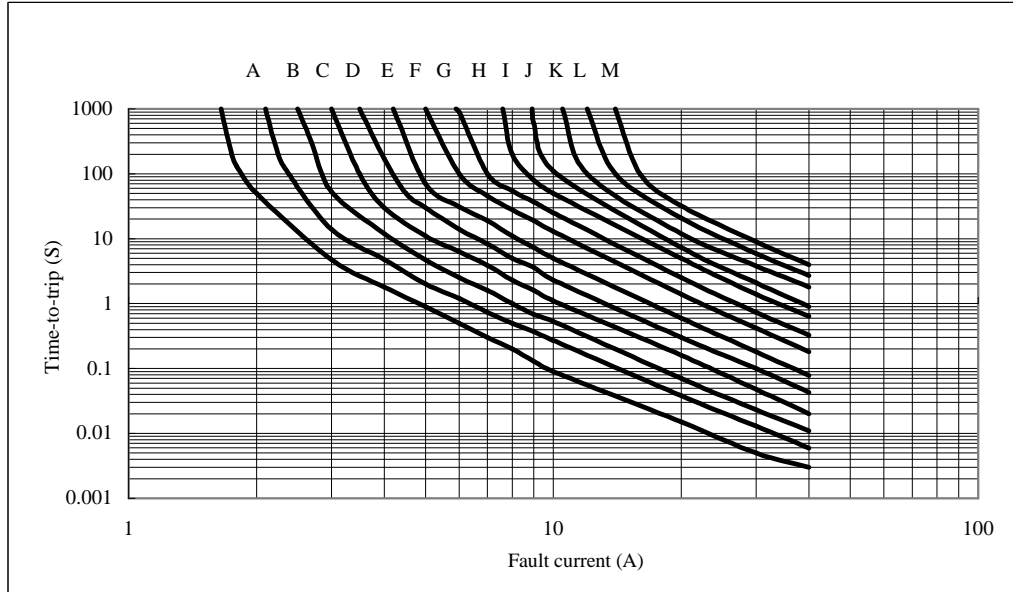
5. Thermal Derating Curve





6. Typical Time-To-Trip at 23°C

- A =FRU090-30
- B =FRU110-30
- C =FRU135-30
- D =FRU160-30
- E =FRU185-30
- F =FRU250-30
- G =FRU300-30
- H =FRU400-30
- I = FRU500-30
- J = FRU600-30
- K =FRU700-30
- L =FRU800-30
- M =FRU900-30



7. Material Specification

Lead material : FRU090~FRU250 Tin plated copper, 24 AWG.

FRU300~FRU900 Tin plated copper, 20 AWG.

Soldering characteristics: MIL-STD-202, Method 208E.

Insulating coating:Flame retardant epoxy, meets UL-94V-0 requirement.

8. Part Numbering and Marking System

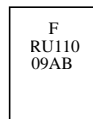
Part Numbering System

FRU □ □ □ - □ □



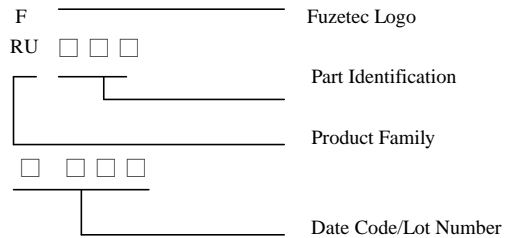
Voltage rating

Current rating



Example

Part Marking System



Warning: -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. Prolonged contact will damage the device performance.

Authorized Distributor in Korea : Parts Bank Co., Ltd. □

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