

FEATURES

- Low hold current, Solid state Radial-leaded product ideal for up to 60V/250V/600V
- Application: Telecommunication and Data transmitting
- Operation Current: 0.08A ~ 0.18A
- Maximum Voltage: 60V/250V/600V
- Temperature Range: -40°C to 85°C

AGENCY RECOGNITION

- UL (E211981)
- C-UL (E211981)
- TÜV (R50004084)

ELECTRICAL CHARACTERISTICS (23°C)

Part Number	Hold Current	Trip Current	Max. Time to Trip		Maximum Current	Max. Oper. Voltage	Max. Int. Voltage	Resistance Tolerance	
			A	Sec				RMIN	R1MAX
	I _H , A	I _T , A			I _{MAX} , A	V _{MAX} , V _{DC}	V _{I-MAX} , V	OHMS	OHMS
FRH080-250UF	0.08	0.16	0.35	4.0	3.0	60	250	14.0	33.0
FRH080-250F	0.08	0.16	0.35	4.0	3.0	60	250	14.0	33.0
FRH110-250UF	0.11	0.22	1.0	2.0	3.0	60	250	5.0	16.0
FRH110-250F	0.11	0.22	1.0	2.0	3.0	60	250	5.0	16.0
FRH120-250UF	0.12	0.24	1.0	2.0	3.0	60	250	6.0	16.0
FRH120-250F	0.12	0.24	1.0	2.0	3.0	60	250	4.0	16.0
FRH145-250UF	0.15	0.29	1.0	2.5	3.0	60	250	3.5	12.0
FRH145-250F	0.15	0.29	1.0	2.5	3.0	60	250	3.0	12.0
FRH180-250UF	0.18	0.65	1.5	10.0	10.0	60	250	0.8	4.0
FRH180-250F	0.18	0.65	1.5	11.0	10.0	60	250	0.8	4.0
FRH150-600F	0.15	0.30	1.0	5.0	3.0	60	600	6.0	22.0
FRH160-600F	0.16	0.32	1.0	7.0	3.0	60	600	4.0	18.0

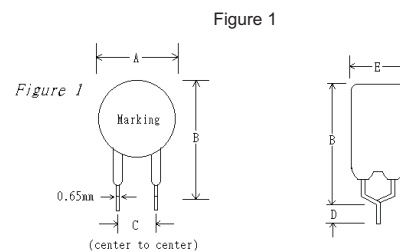
I_H=Hold current-maximum current at which the device will not trip at 23°C still air.
 I_T=Trip current-maximum current at which the device will always trip at 23°C still air.
 V_{MAX}=Maximum voltage device can withstand without damage at its rated current.
 V_{I-MAX}=Maximum interrupt voltage device can withstand for short period of time. (Not for long term.)
 I_{MAX}=Maximum fault current device can withstand without damage at rated voltage (V_{MAX}).
 Pd=Typical power dissipated from device when in the tripped state in 23°C still air environment.
 R_{MIN}=Minimum device resistance at 23°C.
 R_{1MAX}=Maximum device resistance at 23°C, 1 hour after tripping.

Physical specifications:
 Lead material: FRH080-250~FRH180-250 Tin plated copper, 22AWG.
 FRH150-600~FRH160-600 Tin plated copper, 22AWG.
 Soldering characteristics: MIL-STD-202, Method 208E.
 Insulating coating: Flame retardant epoxy, meet UL-94V-0 requirement.

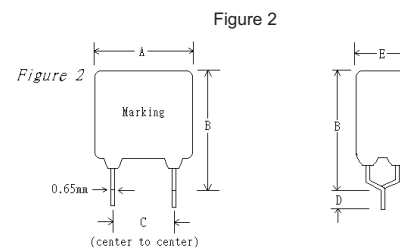
FRH PRODUCT DIMENSIONS (MILLIMETERS)

NOTE: All FRH products are designed to assist equipment to pass ITU, UL1950 or GR1089 specification.

Part Number	A	B	C	D	E
	Maximum	Maximum	Typical	Minimum	Maximum
FRH080-250UF	4.8	9.1	5	4.7	3.8
FRH080-250F	5.3	9.6	5	4.7	4.6
FRH110-250UF	5.3	9.4	5	4.7	3.8
FRH110-250F	5.8	9.9	5	4.7	4.6
FRH120-250UF	6.0	10.0	5	4.7	3.8
FRH120-250F	6.5	11.0	5	4.7	4.6
FRH145-250UF	6.0	10.0	5	4.7	3.8
FRH145-250F	6.5	11.0	5	4.7	4.6
FRH180-250UF	10.4	12.6	5	4.7	3.8
FRH180-250F	10.9	13.6	5	4.7	4.6
FRH150-600F	13.5	12.6	5	4.7	6
FRH160-600F	16.0	12.6	5	4.7	6



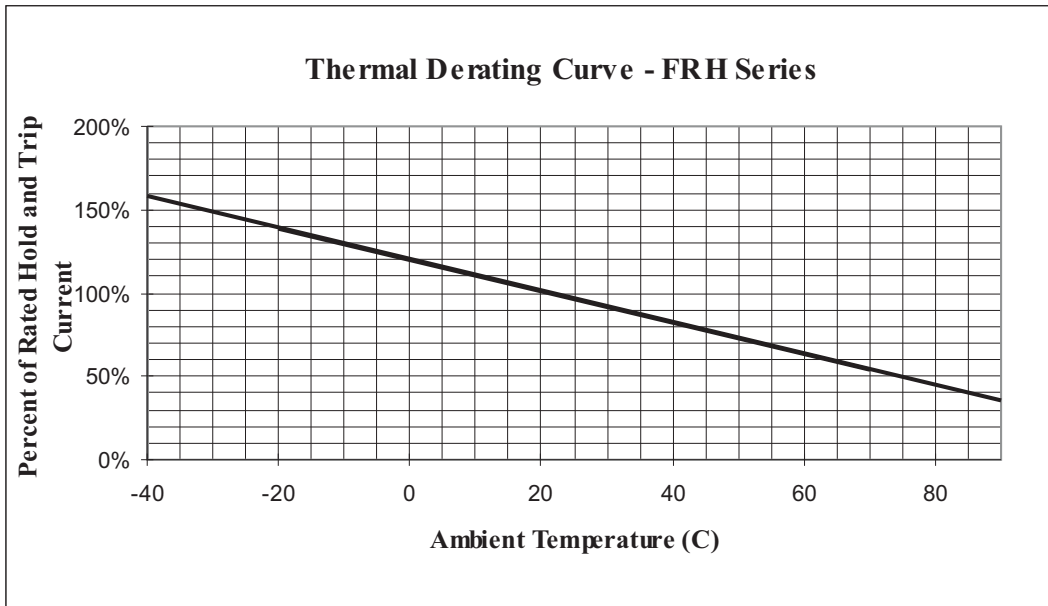
Lead Size: 22AWG (0.65mm)



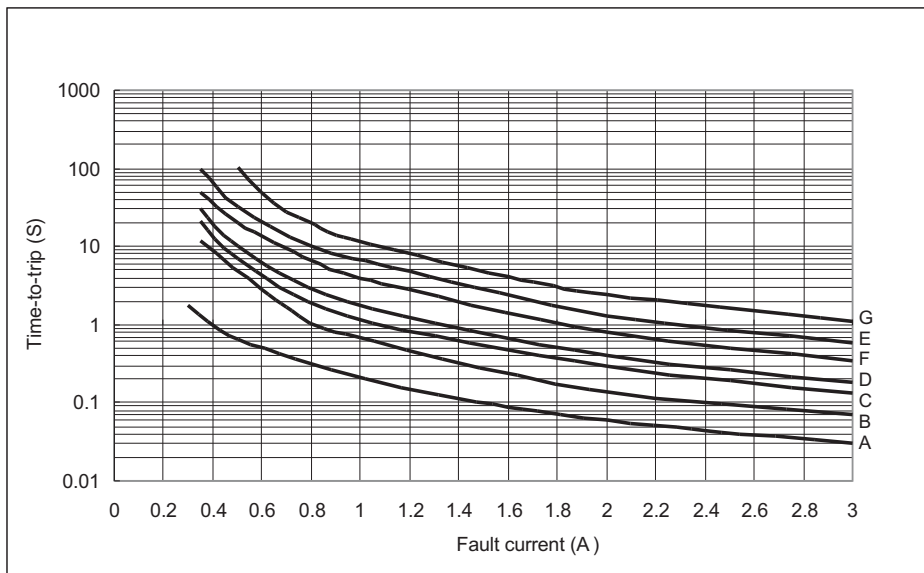
Lead Size: 22AWG (0.65mm)

CAUTION: FRH devices are not intended for continuous use of Line Voltage such as 120 VAC`600VAC and above.

■ THERMAL DERATING CURVE



■ TYPICAL TIME-TO-TRIP AT 23°C



- A= FRH080(U)-250
- B= FRH110(U)-250
- C= FRH120(U)-250
- D= FRH145(U)-250
- E= FRH180(U)-250
- F= FRH150-600
- G= FRH160-600

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NOTE: All Specification subject to change without notice.