

Radial Leaded PTC Resettable Fuse : FHE Series

1. Summary

- (a) **RoHS Compliant (Lead Free) Product**
- (b) **Applications : Wide variety of electronic equipment**
- (c) **Product Features : Very Low resistance, Very High hold current, Solid state, Radial leaded product ideal for up to 32V and Operating temperatures up to 125°C.**
- (d) **Operation Current : 0.5A~10.0A**
- (e) **Maximum Voltage : 32V**
- (f) **Temperature Range : -40°C to 125°C**

2. Agency Recognition

UL: File No. E211981
 C-UL: File No. E211981
 TÜV: File No. R50004084

3. Electrical Characteristics (23°C)

Part Number	Hold Current	Trip Current	Max.Time to Trip	Maximum Current	Rated Voltage	Typical Power	Resistance	
	I _H , A	I _T , A	at 5xI _H , S	I _{MAX} , A	V _{MAX} , VDC	P _d , W	R _{MIN}	R _{1MAX}
							Ohms	Ohms
FHE050-32F	0.5	1.0	3.0	100	32	0.9	0.3500	1.1000
FHE070-32F	0.7	1.4	3.2	100	32	1.4	0.2300	0.8000
FHE100-32F	1.0	1.9	6.2	100	32	1.4	0.1500	0.4300
FHE200-32F	2.0	4.0	5.5	100	32	2.2	0.0650	0.2500
FHE300-32F	3.0	6.0	5.0	100	32	3.2	0.0350	0.1100
FHE500-32F	5.0	10.0	9.0	100	32	5.3	0.0150	0.0400
FHE750-32F	7.5	15.0	13.0	100	32	6.5	0.0074	0.0230
FHE1000-32F	10.0	20.0	15.0	100	32	7.0	0.0060	0.0160

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}).
 P_d=Typical power dissipated from device when in 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: FHE050-32F~FHE100-32F Tin plated copper clad steel, 24 AWG.
 FHE200-32F~FHE750-32F Tin plated copper, 20 AWG.
 FHE1000-32F Tin plated copper, 18 AWG.
 Soldering characteristics: MIL-STD-202, Method 208E.
 Insulating coating: Flame retardant epoxy, meets UL-94V-0 requirement.

NOTE : Specification subject to change without notice.

4. Production Dimensions (millimeter)

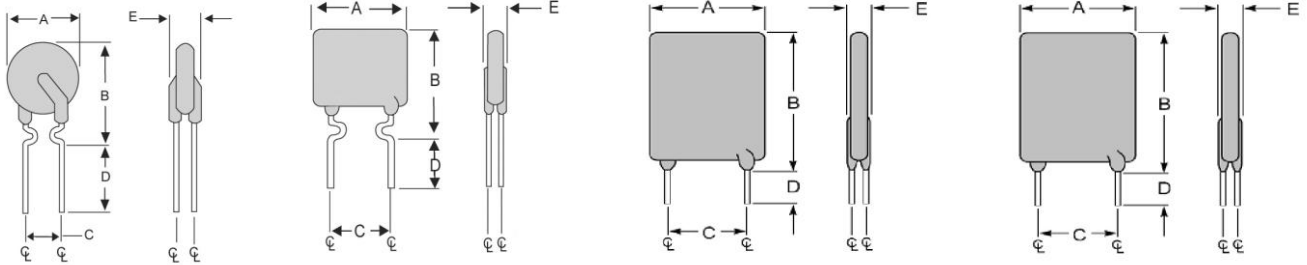


Fig.1
Lead Size: 24AWG
Φ0.51 mm Diameter

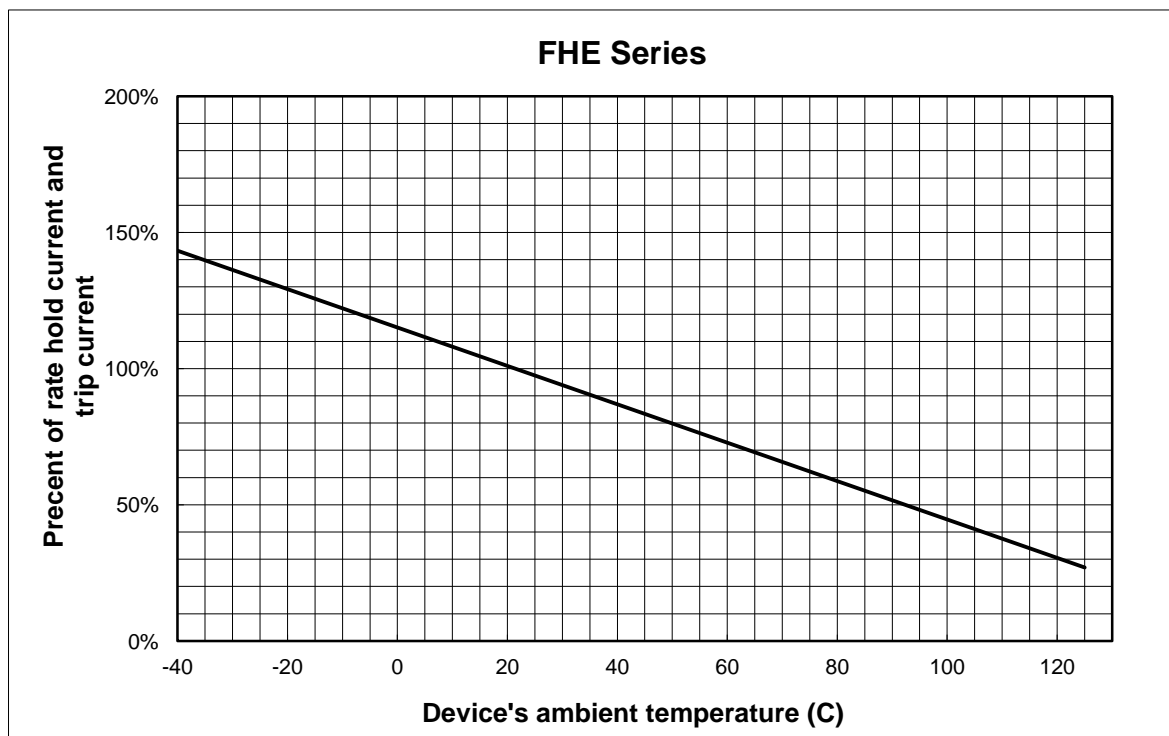
Fig.2
Lead Size: 24AWG
Φ0.51 mm Diameter

Fig.3
Lead Size: 20AWG
Φ0.81 mm Diameter

Fig.4
Lead Size: 18AWG
Φ1.00 mm Diameter

Part Number	Figure	A	B	C	D	E
		Maximum	Maximum	Typical	Minimum	Maximum
FHE050-32F	1	7.4	12.7	5.1	7.6	3.3
FHE070-32F	2	6.9	10.8	5.1	7.6	3.0
FHE100-32F	1	9.7	13.6	5.1	7.6	3.0
FHE200-32F	3	9.5	13.5	5.1	7.6	3.0
FHE300-32F	3	10.2	15.5	5.1	7.6	3.8
FHE500-32F	3	14.0	24.1	5.1	7.6	3.8
FHE750-32F	3	21.1	24.9	10.2	7.6	3.8
FHE1000-32F	4	23.5	27.9	10.2	7.6	4.0

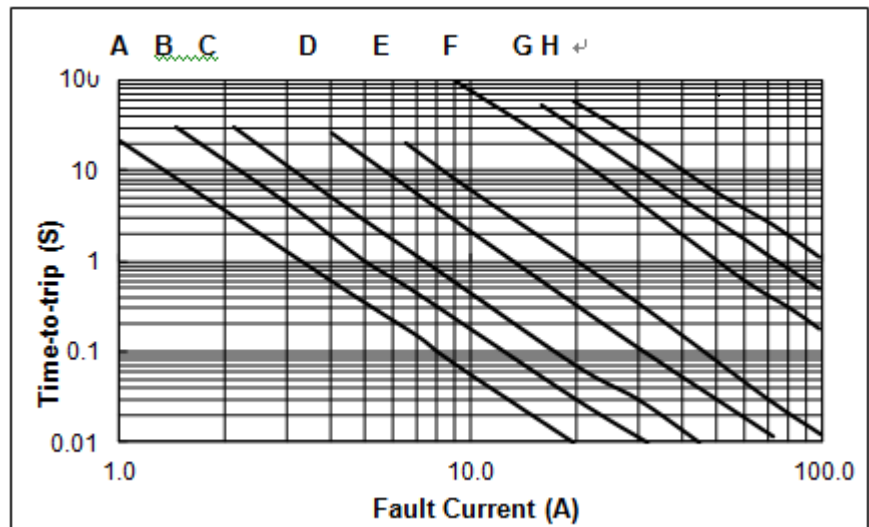
5. Thermal Derating Curve



NOTE : Specification subject to change without notice.

6. Typical Time-To-Trip at 23°C

- A = FHE050-32F
- B = FHE070-32F
- C = FHE100-32F
- D = FHE200-32F
- E = FHE300-32F
- F = FHE500-32F
- G = FHE750-32F
- H = FHE1000-32F



7. Material Specification

Lead material: FHE050-32F~FHE100-32F Tin plated copper clad steel, 24 AWG.

FHE200-32F~FHE750-32F Tin plated copper, 20 AWG.

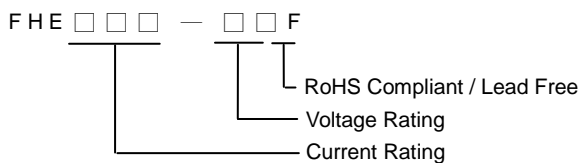
FHE1000-32F Tin plated copper, 18 AWG.

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

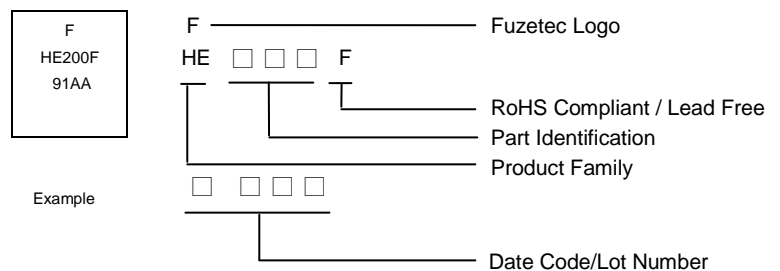
Insulating coating: Flame retardant epoxy, meets UL-94V-0 requirement.

8. Part Numbering and Marking System

Part Numbering System



Part Marking System



Note: Font on Marking may look slightly different due to fine turnings of each Marking printer.

Warning: - Each product should be carefully evaluated and tested for their suitability of application.



- Operation beyond the specified maximum rating 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 : Specification subject to change without notice.