

## HRF0402FA SolidMatrix Surface Mount Fuse (Fast Acting, 0402 Size)



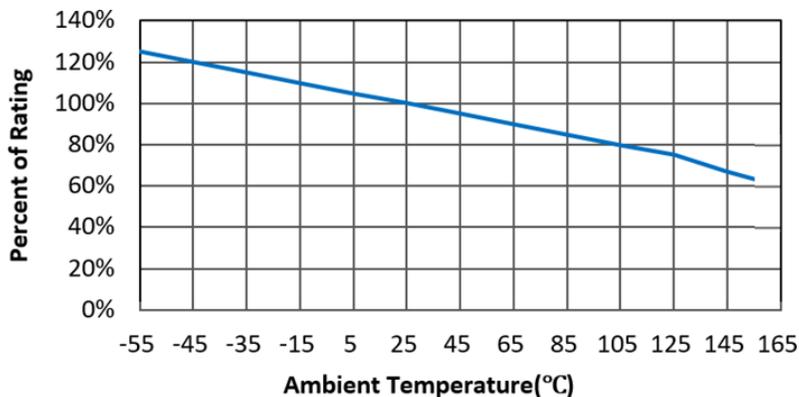
### Features

- Tin/Lead (Sn/Pb) solder plated terminals.
- Single small case size for current rating from 0.5A to 8A.
- Multilayer monolithic structure with glass ceramic body.
- Silver fusing element and silver termination with Ni and Sn/Pb solder plating.
- Symmetrical design and reliable functionality throughout prolonged use.
- Compatible with both wave and reflow soldering processes

### Clearing Time Characteristics

% Of Current Rating	Clearing Time @25°C	
	Min.	Max.
100%	4 hours	-
250%	-	5 seconds
400%	-	0.05 seconds

### Derating Curve

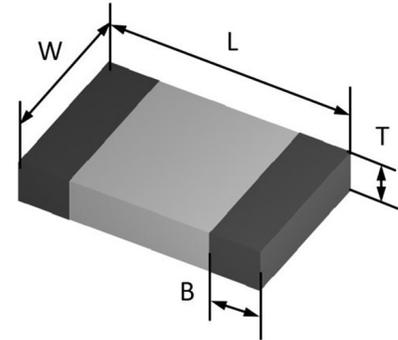


### Applications

- Satellite/Spacecraft
- Aerospace
- Avionics
- Military
- Telecom DC/DC power
- Drones
- Battery and BMS
- PDU

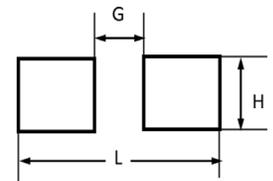
### Product Dimensions

Dimension	Inch	mm
L	0.039 ± 0.004	1.00 ± 0.10
W	0.020 ± 0.004	0.51 ± 0.10
T	0.020 ± 0.004	0.51 ± 0.10
B	0.010 ± 0.004	0.25 ± 0.10



### Recommended Land Pattern

Dimension	0402	Unit
L	0.063 (1.60)	Inch (mm)
G	0.016 (0.40)	Inch (mm)
H	0.028 (0.70)	Inch (mm)



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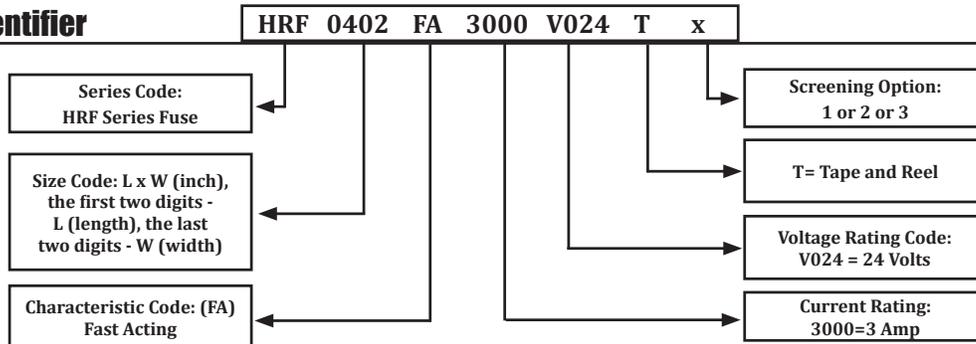
### Electrical Characteristics

Part Number	Voltage Rating (VDC)	Current Rating (Amps)	Interrupting Rating	Nominal Cold DCR (Ω)/1	Nominal I <sup>2</sup> t (A <sup>2</sup> s)/2
HRF0402FA0500V024Tx	24V	0.5	35A @24VDC	0.380	0.004
HRF0402FA0750V024Tx		0.75		0.210	0.007
HRF0402FA1000V024Tx		1.0		0.120	0.014
HRF0402FA1500V024Tx		1.5		0.056	0.050
HRF0402FA2000V024Tx		2.0		0.035	0.070
HRF0402FA3000V024Tx		3.0		0.021	0.110
HRF0402FA4000V024Tx		4.0		0.014	0.210
HRF0402FA5000V024Tx		5.0		0.011	0.450
HRF0402FA6000V024Tx		6.0		0.010	0.550
HRF0402FA7000V024Tx		7.0		0.008	0.800
HRF0402FA8000V024Tx		8.0		0.007	1.000

1- Measured at ≤10% rated current and 25°C ambient.

2- Melting I<sup>2</sup>t at 0.001 Second pre-arcing time.

### Part Number Identifier



### Standard Screening Options:

- 1- Standard 100% Visual Inspection per MIL-PRF-23419/14, AS9102 FAIR, MIL-STD-1580 DPA.
- 2- Option 2: Group A and B Screening per MIL-PRF-23419/14, AS9102 FAIR, MIL-STD-1580 DPA (see AEM Detail Specification for more details).
- 3- Option 3: Group A, B, and C Screening per MIL-PRF-23419/14, AS9102 FAIR, MIL-STD-1580 DPA (see AEM Detail Specification for more details).

### Termination :

Tin/Lead (Sn/Pb)

### General Specification:

- 1- Operating temperature: -55°C to +150°C (With de-rating).
- 2- Storage Temperature: -55°C to +150°C.
- 3- Moisture sensitivity level: MSL=1.



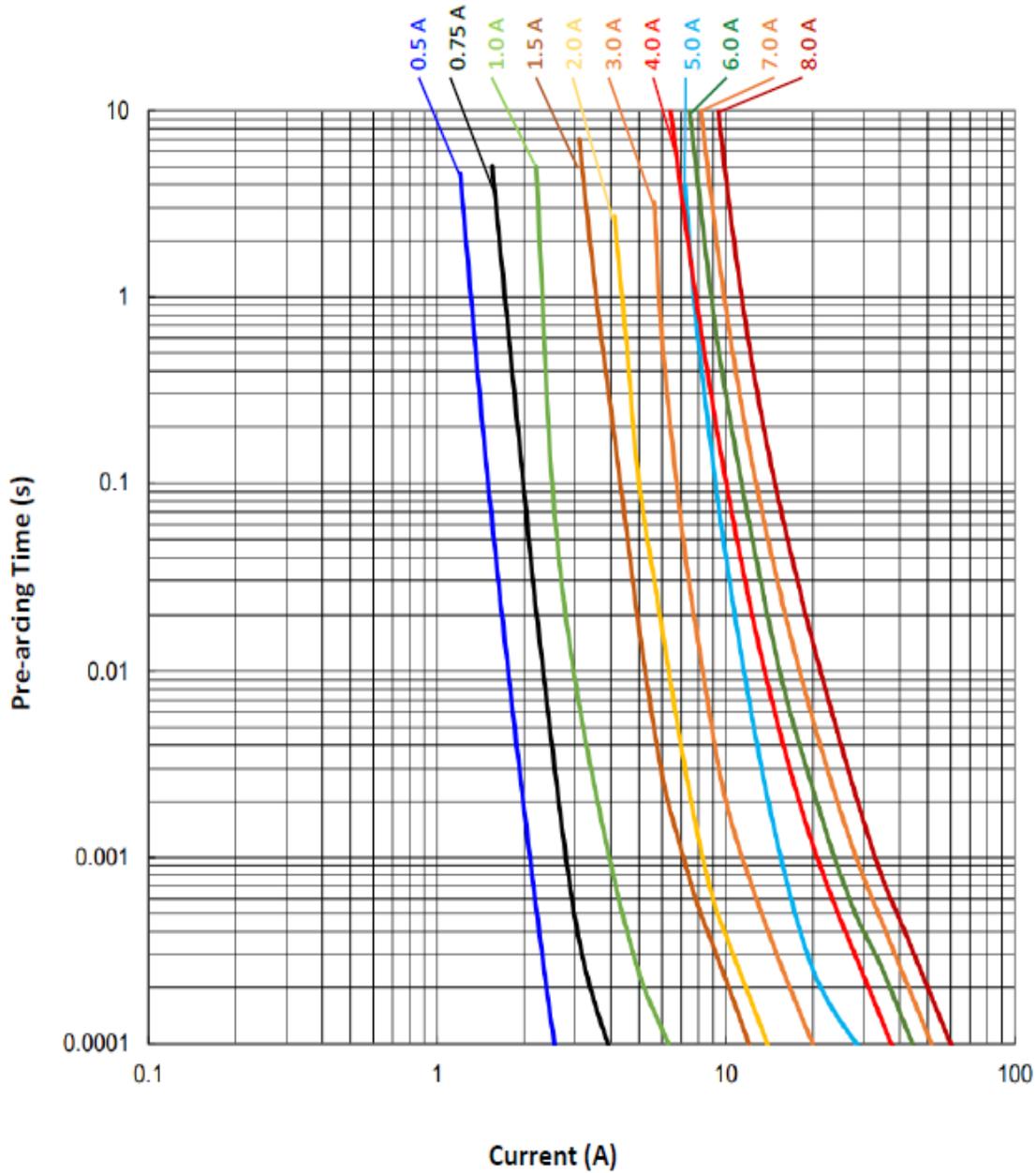
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### Reliability Tests:

No.	Item	Condition	Criteria
1	Bend	2mm bend	DCR change within $\pm 20\%$ . ( $\pm 10\%$ for $\leq 1A$ ), no mechanical damage
2	Solderability	245°C, 5 seconds	New solder coverage $\geq 95\%$
3	Soldering Heat Resistance	260°C, 60 seconds	DCR change within $\pm 10\%$ , new solder coverage 75% minimum, no mechanical damage
4	Terminal Strength	Gradually apply 0.5kg force to the side of the part for 60 seconds	DCR change within $\pm 10\%$ , no mechanical damage
5	Life	80% rated current (75% for $< 1A$ ), 2000 hours, ambient temperature +20°C to +30°C	Voltage drop change within $\pm 10\%$
6	Thermal Shock	-65°C to +150°C, 100 cycles	DCR change within $\pm 10\%$ , no mechanical damage
7	Mechanical Vibration	5 – 3000 Hz, 0.4 inch double amplitude or 30 G peak	DCR change within $\pm 10\%$ , no mechanical damage
8	Mechanical Shock	1500 G, 0.5 milliseconds, half-sine shocks	DCR change within $\pm 10\%$ , no mechanical damage
9	Salt Spray	5% salt solution, 48 hours exposure	DCR change within $\pm 10\%$ , no excessive corrosion
10	Moisture Resistance	10 cycles	DCR change within $\pm 10\%$ , no excessive corrosion

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**Average Pre-arcing Time Curves**



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**Average I<sup>2</sup>t vs. t Curves**

