

## HRF0603FA SolidMatrix Surface Mount Fuse (Fast Acting, 0603 Size)

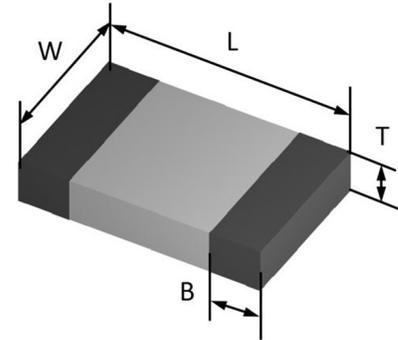


### Features

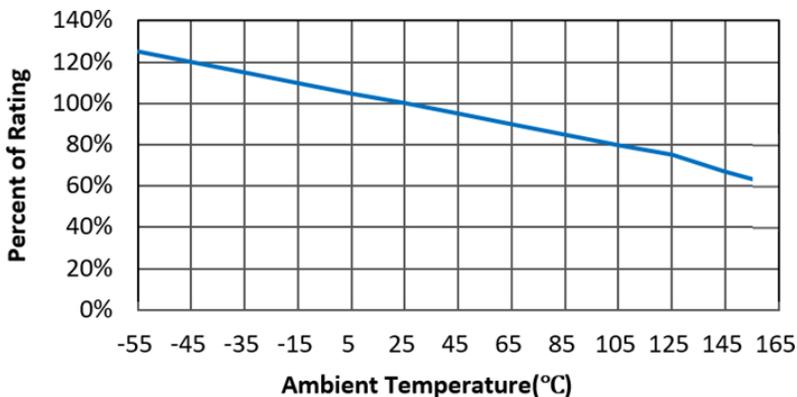
- Tin/Lead (Sn/Pb) solder plated terminals.
- Single small case size for current rating from 0.5A to 8A.
- Multilayer monolithic structure with glass ceramic body.
- Silver fusing element and silver termination with Ni and Sn/Pb solder plating.
- Symmetrical design and reliable functionality throughout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

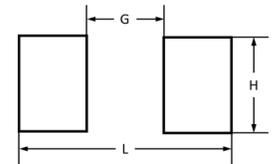
- Satellite/Spacecraft
- Aerospace
- Avionics
- Military
- Telecom DC/DC power
- Drones
- Battery and BMS
- PDU

### Product Dimensions

Dimension	Inch	mm
L	0.063 ± 0.006	1.60 ± 0.15
W	0.031 ± 0.006	0.80 ± 0.15
T	0.031 ± 0.006	0.80 ± 0.15
B	0.014 ± 0.006	0.36 ± 0.15

### Recommended Land Pattern

Dimension	0603	Unit
L	0.087 (2.20)	Inch (mm)
G	0.031 (0.80)	Inch (mm)
H	0.039 (1.00)	Inch (mm)



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### Electrical Characteristics

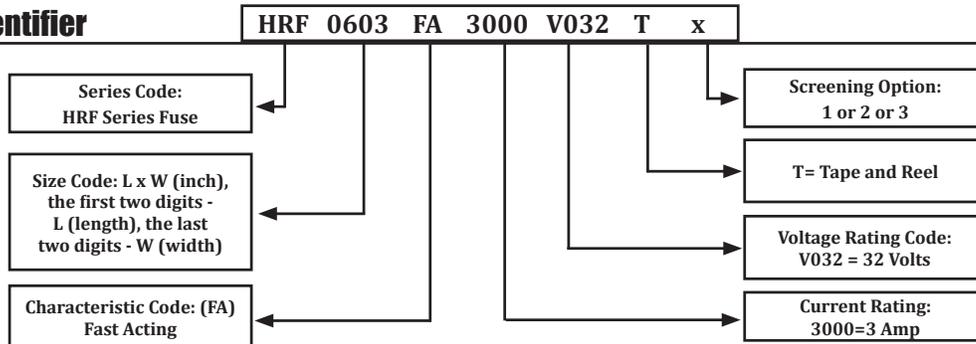
Part Number	Voltage Rating (VDC)	Current Rating (Amps)	Interrupting Rating	Nominal Cold DCR ( $\Omega$ )/1	Nominal $I^2t$ ( $A^2s$ )/2	Marking Code/3
HRF0603FA0500V063Tx	63	0.5	35A @Rated Voltages	0.485	0.003	C
HRF0603FA0750V063Tx	63	0.75		0.254	0.006	D
HRF0603FA1000V063Tx	63	1.0		0.147	0.013	E
HRF0603FA1500V063Tx	63	1.5		0.059	0.030	G
HRF0603FA2000V032Tx	32	2.0		0.044	0.060	I
HRF0603FA2500V032Tx	32	2.5		0.032	0.100	J
HRF0603FA3000V032Tx	32	3.0		0.025	0.180	K
HRF0603FA3500V032Tx	32	3.5		0.024	0.300	L
HRF0603FA4000V032Tx	32	4.0		0.018	0.500	M
HRF0603FA5000V032Tx	32	5.0		0.013	0.800	N
HRF0603FA6000V024Tx	24	6.0		0.010	1.100	O

1- Measured at  $\leq 10\%$  rated current and 25°C ambient.

2- Melting  $I^2t$  at 0.001 Second pre-arcing time.

3- Black marking code

### Part Number Identifier



### Standard Screening Options:

- Standard 100% Visual Inspection per MIL-PRF-23419/14, AS9102 FAIR, MIL-STD-1580 DPA.
- 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).
- 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:

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



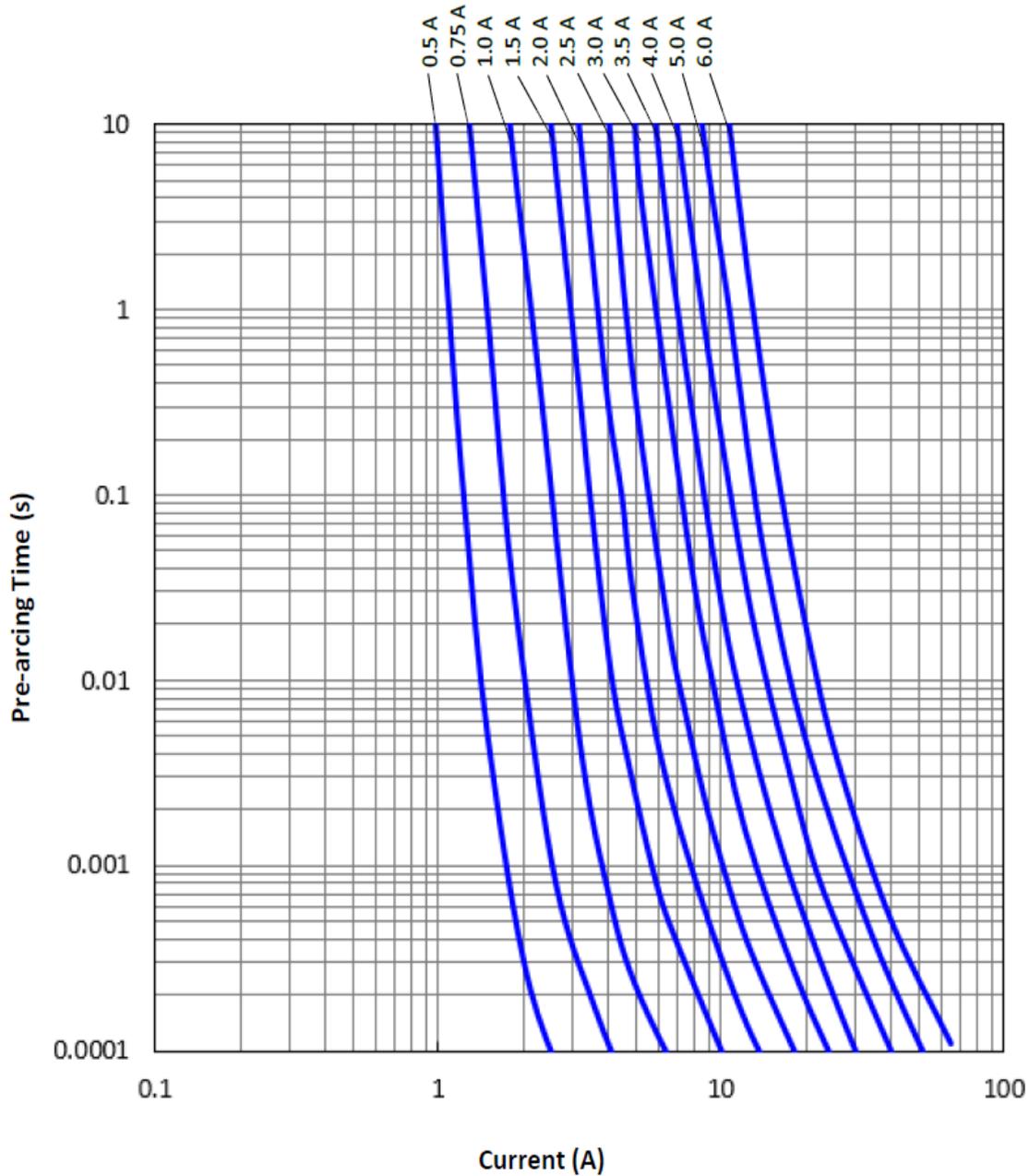
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### Reliability Tests:

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



**HRF0603FA SolidMatrix Surface Mount Fuse (Fast Acting, 0603 Size)**

**Average  $I^2t$  vs. t Curves**

