

Thin Film Surface Mount Fuses

Very Fast-Acting, CFF Series, 0603 Size

Features:

- Very fast acting at 200% overload current levels
- Low DCR
- High inrush current withstanding capability
- Fiberglass enforced epoxy fuse body
- Copper termination with nickel and tin plating
- Halogen free, RoHS compliance and lead-free



Application Fields:

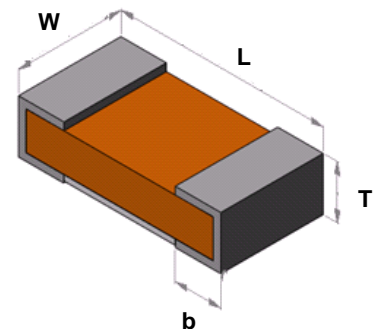
- Notebook computers and tablets
- Digital cameras
- Memory cards
- Toys
- Bluetooth earphones
- Portable electronic devices

Agency Approval:

Recognized under the Components Program of Underwriters Laboratories. File Number: E232989.

Shape and Dimensions:

Unit	Inch	mm
Length (L)	0.063 ± 0.004	1.60 ± 0.10
Width (W)	0.032 ± 0.004	0.81 ± 0.10
Thickness (T)	0.012 ± 0.004	0.30 ± 0.10
Termination bandwidth (b)	0.014 ± 0.004	0.36 ± 0.10



Clear-Time Characteristics:

% of Current Rating	Opening Time at 25°C
100%	4 hours min.
200%	5 seconds max.
300%	0.2 second max.

Product identification:

I 0603 FF 1000 I M - CFF

(1) (2) (3) (4) (5) (6) (7)

(1) **Series code**

(2) **Size code:** Standard EIA chip sizes

(3) **Action code:**

FF: Very fast-acting

(4) **Current rating code:**

0500: 0.5A

1000: 1.0A

(5) **Package code:**

T: Tape & Reel

B: Bulk

(6) **Marking code:**

M: With mark (option)

(7) **Identified code:**

Typical Ratings and Characteristics:

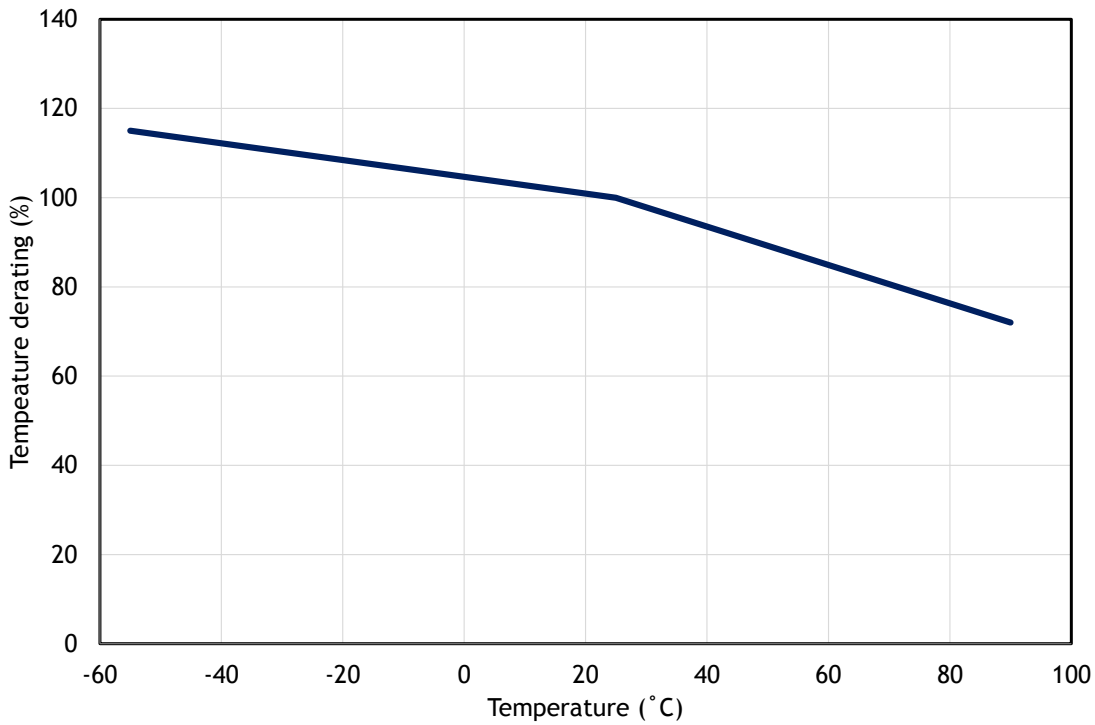
✧ Operating temperature: -55 to +90°C

Part Number	Current Rating (A)	Voltage Rating (VDC)	Interrupting Rating	Nominal Cold DCR (Ω) ¹	Nominal I ² t (A ² s) ²	Marking
T0603FF0500TM-CFF	0.50	65	50A@35V DC/AC 13A@65V DC	0.185	0.0150	I
T0603FF0750TM-CFF	0.75	65		0.112	0.0250	-
T0603FF1000TM-CFF	1.00	65		0.069	0.0300	+
T0603FF1250TM-CFF	1.25	65	35A@35V DC/AC 13A@65V DC	0.048	0.0520	x
T0603FF1500TM-CFF	1.50	65		0.037	0.0770	
T0603FF1750TM-CFF	1.75	35	35A@35V DC/AC 50A@24V DC/AC	0.031	0.1000	=
T0603FF2000TM-CFF	2.00	35		0.0260	0.1200	=
T0603FF2500TM-CFF	2.50	35		0.0210	0.1500	H
T0603FF3000TM-CFF	3.00	35		0.0176	0.3500	III
T0603FF3500TM-CFF	3.50	35		0.0148	0.4400	HH
T0603FF4000TM-CFF	4.00	35		0.0125	0.6000	□
T0603FF5000TM-CFF	5.00	35		0.0095	1.0000	○

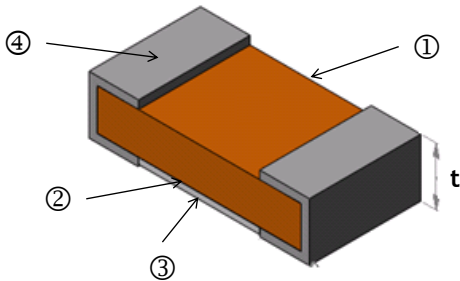
¹ Measured at $\leq 10\%$ of rated current and 25°C ambient

² Melting I²t at 0.001 sec.

Temperature Effect on Current Rating:



Construction and Materials:

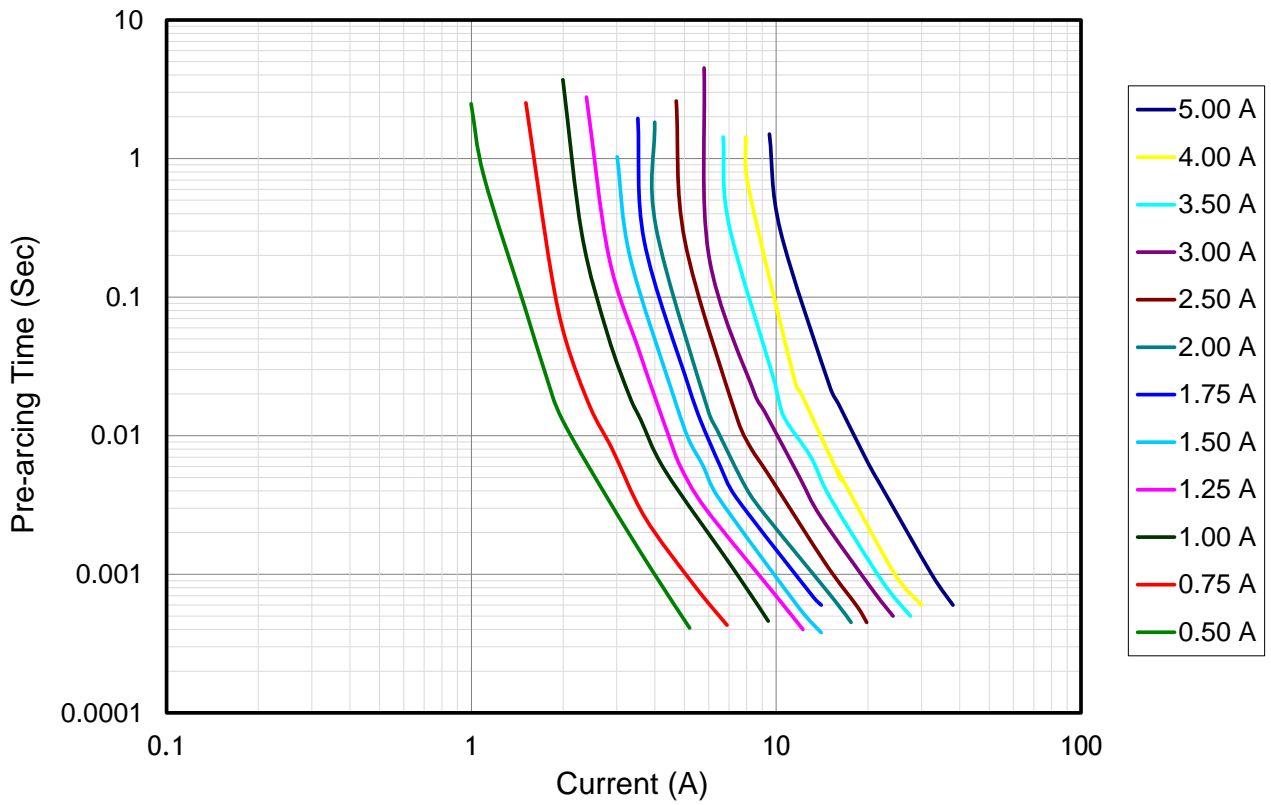


Substrate ①	Fuse element ②	Overcoat ③	Termination ④
PCB	Cu/Sn	Epoxy	Ni/Cu/Ni/Sn

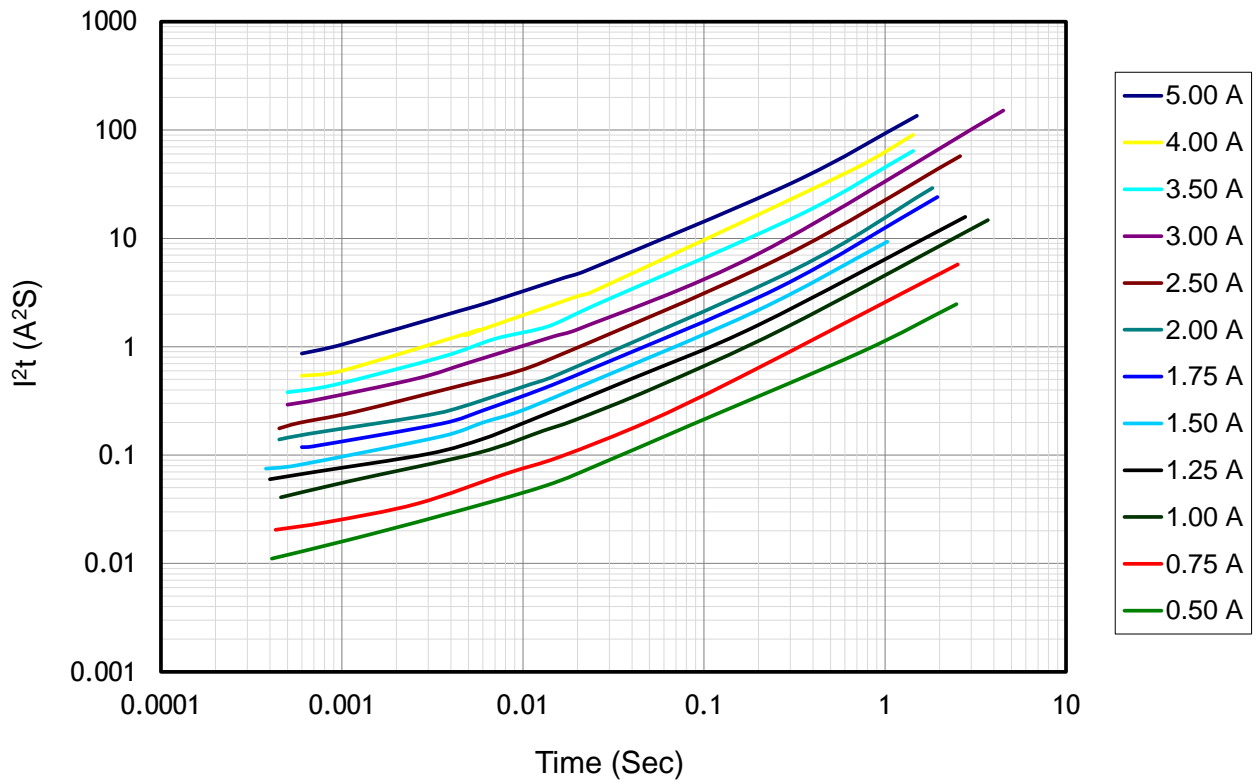
Packaging:

Chip Size	Parts on 7 inch (178mm) Reel
0603(1608)	8,000

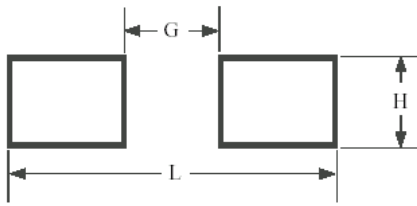
Average Pre-arcing Time Curves



Average I²t vs. t Curves



Recommended Foot Print Dimensions:



G (mm)	H (mm)	L (mm)
0.8	1.0	2.2

Fig. 1 Solder pads scheme and recommended dimensions.

Environmental test:

No.	Test item	Requirement	Test condition	Reference
1	Bending	≤1A: 10% DCR change max. >1A: 20% DCR change max.	2mm	Refer to AEM QIQ034
2	Solderability	95% coverage min.	One dip at 255°C for 5 seconds	MIL-STD-202 Method 208
3	Thermal shock	DCR change within ±10% No mechanical damage	100 cycles between -55°C and +125°C	MIL-STD-202 Method 107
4	Moisture resistance	DCR change within ±10% No excessive corrosion	10 cycles	MIL-STD-202 Method 106
5	Salt spray	DCR change within ≤ ±10% No excessive corrosion	5% salt solution, 48 hour exposure	MIL-STD-202 Method 101
6	Mechanical vibration	DCR change within ≤ ±10% No mechanical damage	0.4" D.A. or 30G between 5 and 3000 Hz	MIL-STD-202 Method 204
7	Mechanical shock	DCR change within ≤ ±10% No mechanical damage	1500G, 0.5 ms, half sine shocks	MIL-STD-202 Method 213
8	Life	Change of voltage drop within ±10%, no open circuit	75% rated current, 2000 hours, ambient temperature +20°C to 30°C	Refer to AEM QIQ106

Recommended Reflow Soldering Profile:

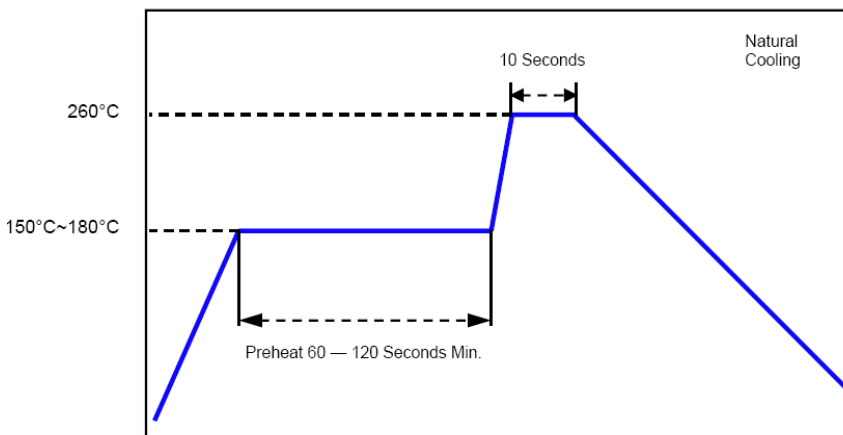


Fig. 2 Recommended reflow soldering profile