PROSEMI

Ultra-Thin Fuse | 0.06x0.03”

Thin Film Chip Fuse

0603U Series

Features

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

Agency Approval

Agency	Agency file number	Ampere Range
c UL us	E553683	0.15A-6A

Application

- Panel
- Notebook
- Toy
- HDD
- IoT
- Finger print
- Smart lock
- Battery pack

Electrical Characteristics

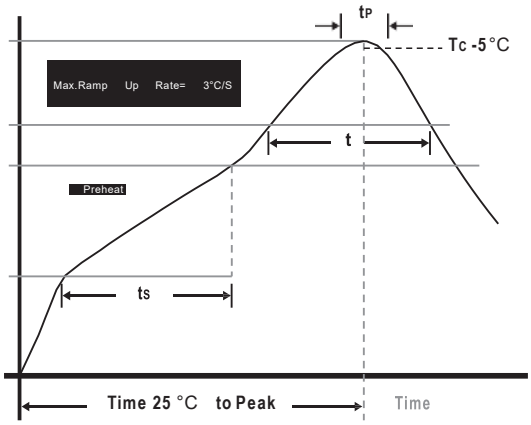
% of Amp Rating	Opening Time
100%	4 Hours Min.
200%	5 Seconds Max.
300%	0.2 Seconds Max.

Electrical Characteristics

Part Number	Current Rating(A)	Interrupting Rating	Typical Cold Resistance (Ω)	Typical I^2t (A^2S)
0603U-R150-L	0.150	50A@35VDC	2.2	0.0008
0603U-R200-L	0.200		1.3	0.0014
0603U-R250-L	0.250		1.1	0.0023
0603U-R375-L	0.375		0.38	0.009
0603U-R500-L	0.500		0.26	0.021
0603U-R750-L	0.750		0.115	0.031
0603U-1.00A-L	1.00		0.1	0.053
0603U-1.25A-L	1.25	35A@35VDC	0.095	0.121
0603U-1.50A-L	1.50		0.07	0.225
0603U-1.75A-L	1.75		0.03	0.144
0603U-2.00A-L	2.00		0.032	0.196
0603U-2.50A-L	2.50		0.026	0.324
0603U-3.00A-L	3.00		0.019	0.529
0603U-3.50A-L	3.50		0.016	0.841
0603U-4.00A-L	4.00		0.0125	1.089
0603U-5.00A-L	5.00		0.0095	1.849
0603U-6.00A-L	6.00		0.008	2.5

- Measured at ≤ 10% of rated current and 25°C ambient.
- Melting I2t at 0.001 second of current rating.
- Operating temperature: -55 to +125°C

Soldering Parameters

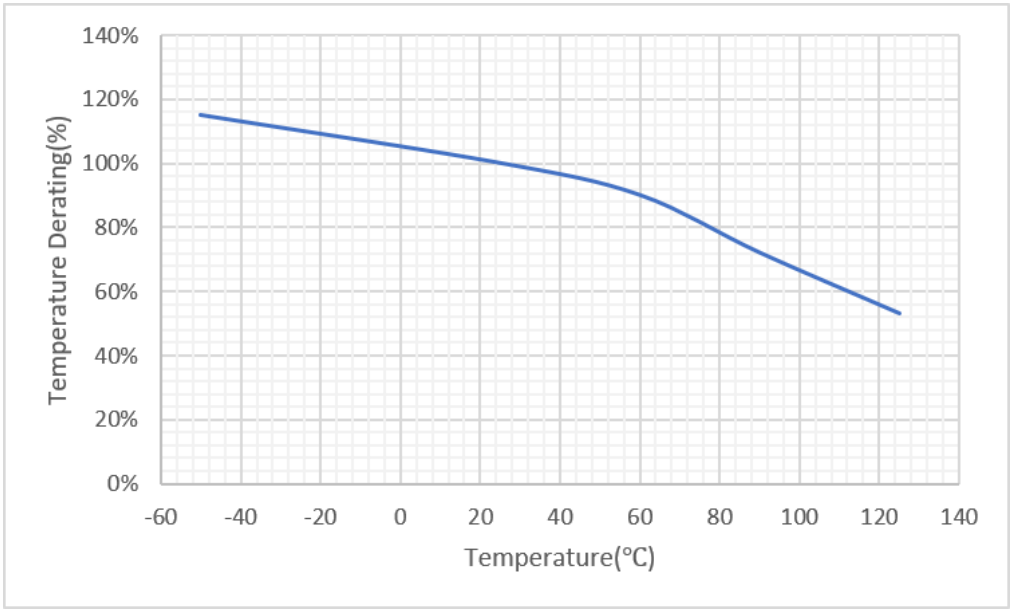


Wave Soldering: 260°C, 10 seconds max.

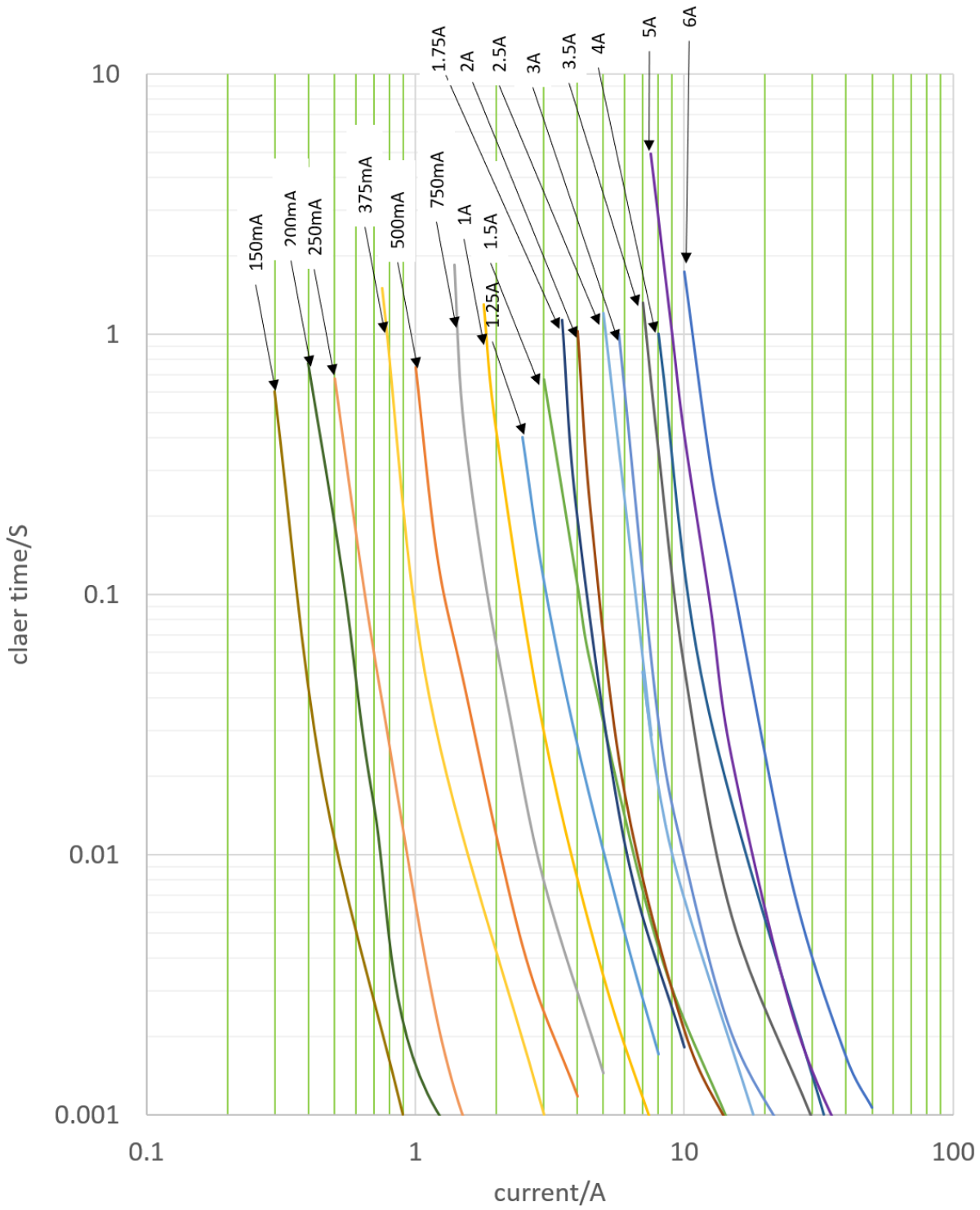
Infrared Reflow: 260°C, 30 seconds max.

Reflow Condition		Pb – Free assembly
Pre heat	- Temperature Min ($T_{S(min)}$)	150°C
	- Temperature Max ($T_{S(max)}$)	200°C
	- Time (Min to Max) (t_S)	60 – 120 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual peak Temperature (t_P)		30 seconds*
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.

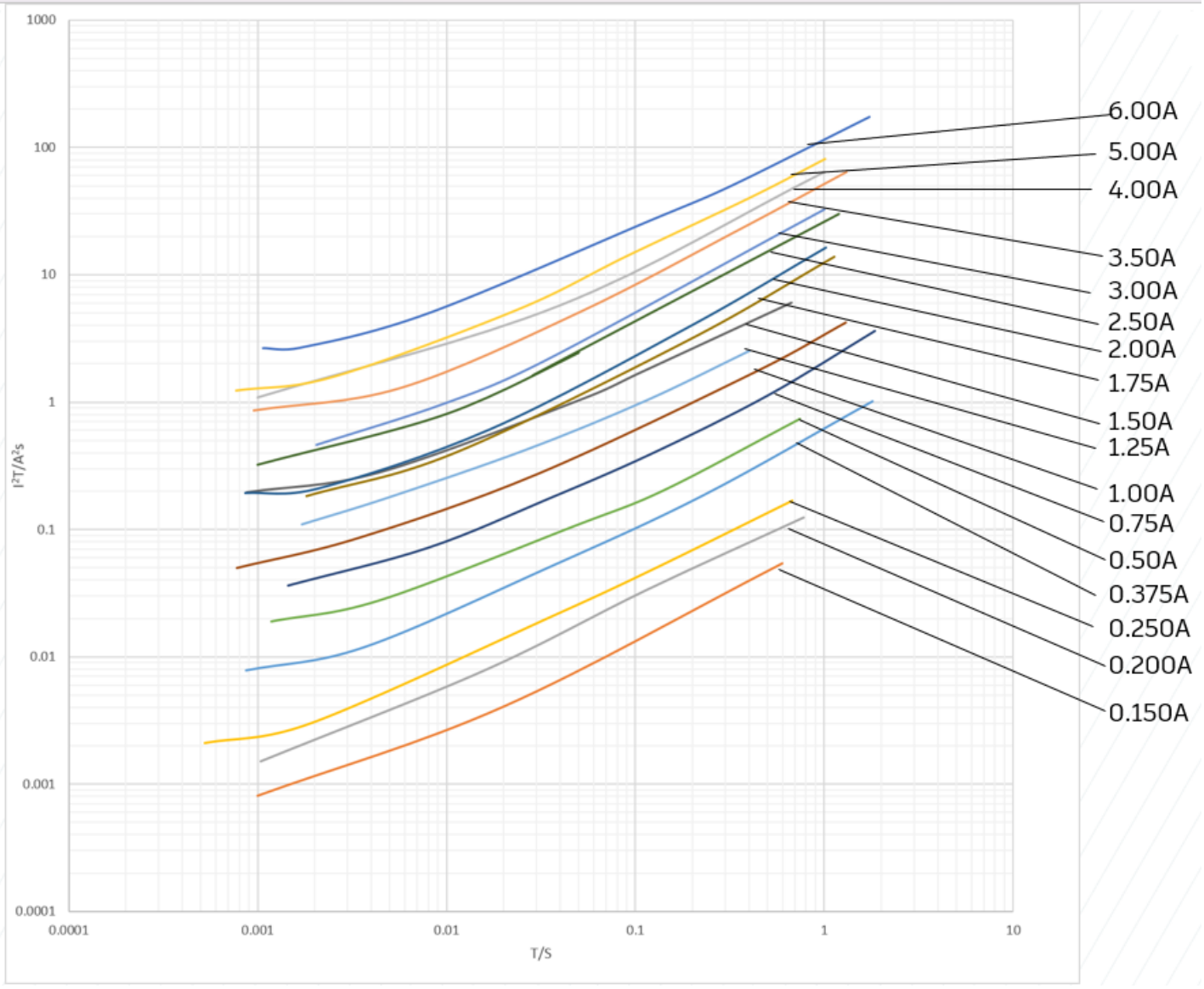
Temperature Effect on Current Rating



Average Pre-arcing Time Curves



Average I^2t vs. t Curves



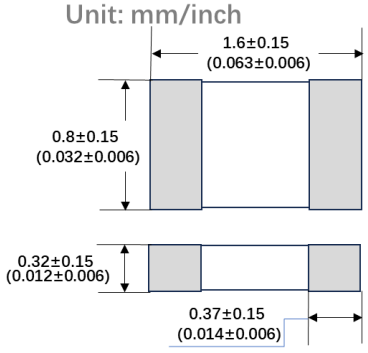
Environmental Tests

Test item	Test Condition and Requirement	Reference
Bend	2 mm bend, DCR change within ±20%. (±10% for ≤1A), no mechanical damage	IEC60068-2-21
Solderability	245°C, 5 seconds, new solder coverage ≥95%	MIL-STD-202 Method 208
Thermal shock	DCR change ≤ ±10%. No mechanical damage. 100 cycles between -55°C and +125°C	MIL-STD-202 Method 107
Moisture resistance	10 cycles, DCR change within ±10%, no excessive corrosion	MIL-STD-202 Method 106
Salt spray	DCR change ≤ ±10%. No excessive corrosion. 5% salt solution, 48 hour exposure	MIL-STD-202 Method 101
Mechanical vibra-tion	DCR change ≤ ±10%. No mechanical damage. 0.4" D.A. or 30G between 5 and 3000 Hz	MIL-STD-202 Method 204
Mechanical shock	DCR change ≤ ±10%. No mechanical damage. 1500G, 0.5 ms, half sine shocks	MIL-STD-202 Method 213
Life	75% rated current, 2000 hours at ambient temperature from +20°C to 30°C, no open circuit, voltage drop change within ±10%	Refer to Internal documents

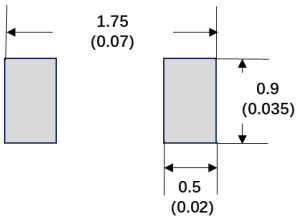
Dimensions

Unit	Inch	mm
Length (L)	0.063± 0.006	1.60 ± 0.15
Width (W)	0.031 ± 0.006	0.80± 0.15
Thickness (T)	0.013 ± 0.006	0.325 ± 0.15
Termination	0.014±0.006	0.35±0.15

Unit: mm/inch



Pad layout



Packaging

- Quantity: 5, 000pcs
- 8mm wide tape on 178mm (7 inch) diameter reel -specification EIA Standard 481