

CC06H

High I^2t ChipTM 0603 size fuses

**Product feature:**

- 0603 (1608 metric) compact design utilizes less board space
- Halogen free, lead free and RoHS compliant
- High inrush withstand capability
- Fast-acting performance
- Ampacity alpha mark on fuse for easy identification
- Standard termination design for easy solderability
- Compatible with standard lead-free solder reflow and wave soldering processes
- Excellent environmental integrity

Applications

For secondary circuit protection in space constrained applications:

- LCD Backlight inverters
- Digital cameras
- DVD Players
- Bluetooth headsets
- Battery packs

Agency information

- cURus Recognized Guide and Card JDXY2/JDYX8, File E19180

Packaging

- TR - Packaging code suffix for tape-and-reel (8 mm wide tape on 178mm diameter reel - specification EIA 481-1)
- Quantity = 5000 fuses

Electrical characteristics

Amp Rating	% of Amp Rating	Opening Time
1-8 A	100	4 Hours
1-7 A	200	1-60 Seconds
1-8 A	250	5 Seconds Max

Specifications

Part Number	Amp Rating ⁵	Voltage Rating (Vdc)	Interrupting Rating ^{1,4} (A)	Typical Cold Resistance ² (Ω)	Typical Pre-Arcing ³ (I^2t)	Typical Voltage Drop (mV)	Typical Power Dissipation (W)	Alpha Marking	Agency Information (cURus)
CC06H1A	1	32	50	0.25	0.02	310	0.32	B	x
CC06H1.5A	1.5	32	50	0.13	0.07	250	0.38	H	x
CC06H2A	2	32	50	0.068	0.14	170	0.38	K	x
CC06H2.5A	2.5	32	50	0.05	0.25	155	0.38	L	x
CC06H3A	3	32	50	0.035	0.30	130	0.38	O	x
CC06H3.5A	3.5	32	50	0.023	0.50	100	0.35	R	x
CC06H4A	4	32	50	0.02	0.8	110	0.45	S	x
CC06H5A	5	32	50	0.013	1.6	95	0.48	T	x
CC06H6A	6	32	50	0.0076	2.6	80	0.48	V	x
CC06H7A	7	32	50	0.0056	3.3	80	0.56	X	x
CC06H8A	8	32/24	50/80	0.0040	4.5	75	0.60	Z	x

1. DC Interrupting Rating (measured at rated voltage, time constant of less than 50 microseconds, battery source).

2. DC Cold Resistance are measured at <10% of rated current in ambient temperature of 20 °C -

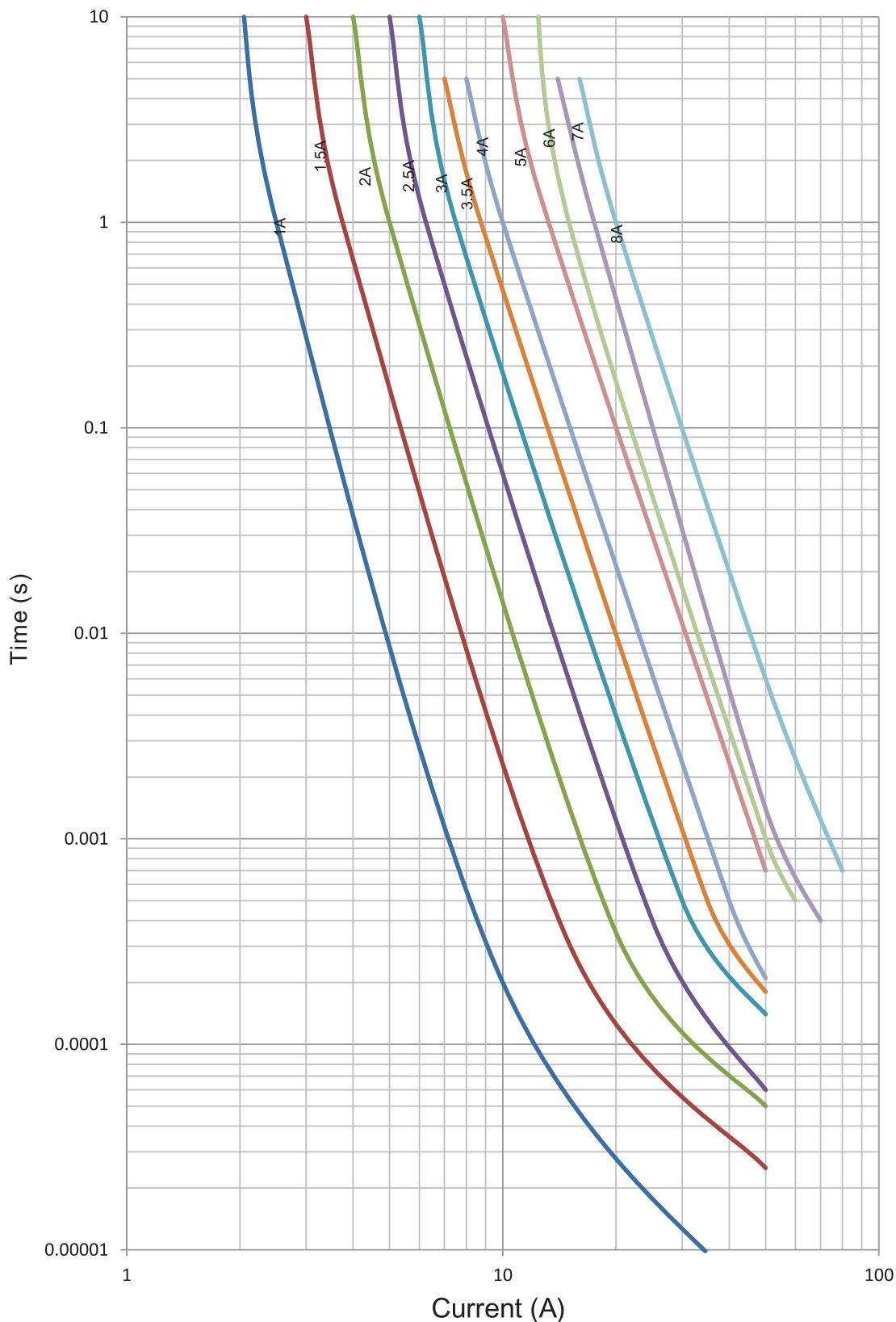
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3. Typical Pre-arcing I^2t are measured at rated DC voltage, 10I_n current (not to exceed interrupting rating).

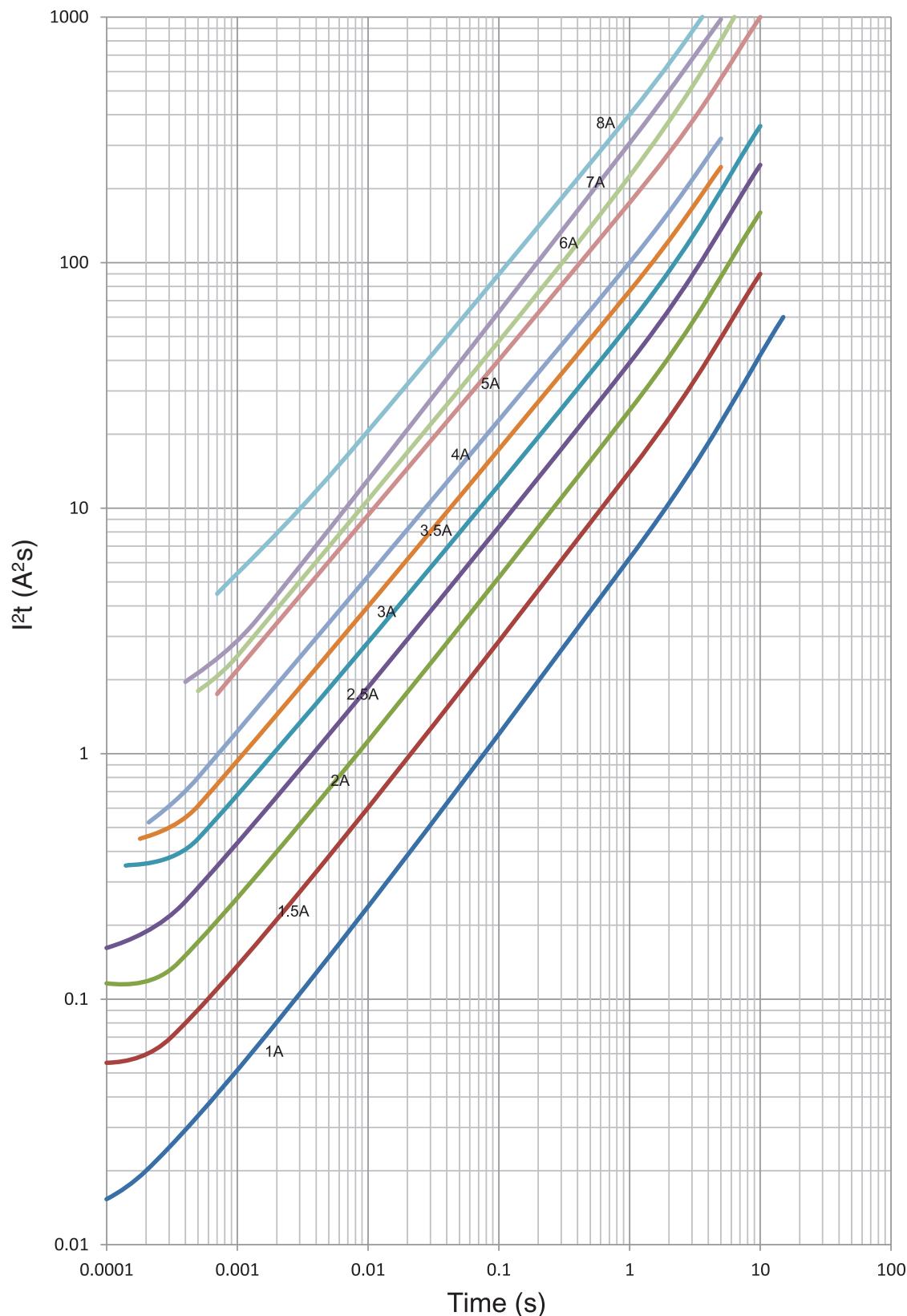
4. The insulation resistance after breaking capacity test is higher than 0.1 M Ω when measured by 2X rated voltage.

5. Device designed to carry rated current for 4 hours minimum. An operating current 80% or less of rated current is recommended, with further design derating required at elevated ambient temperature. See Temperature Derating Curve on next page.

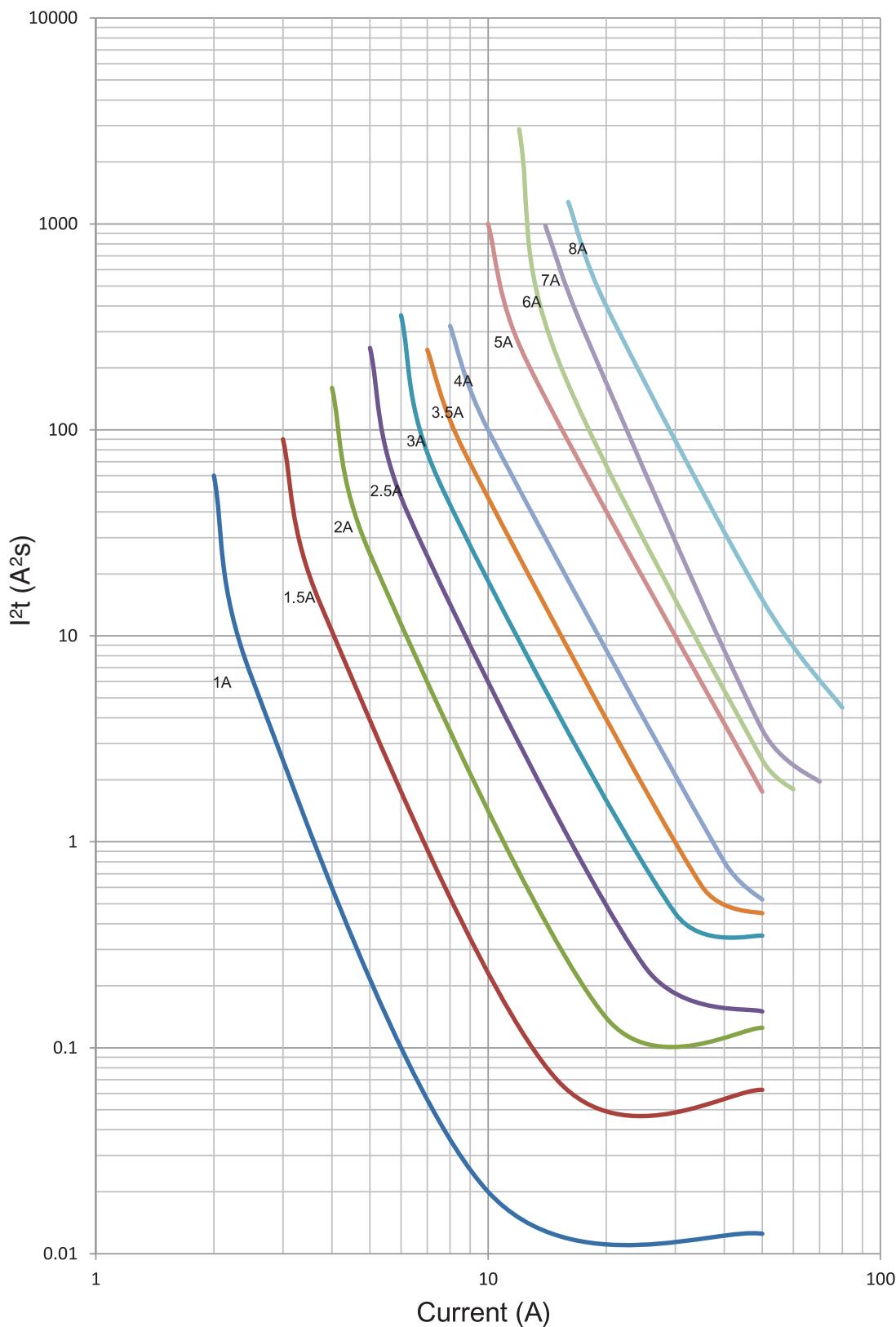
Time-current curves — average melt



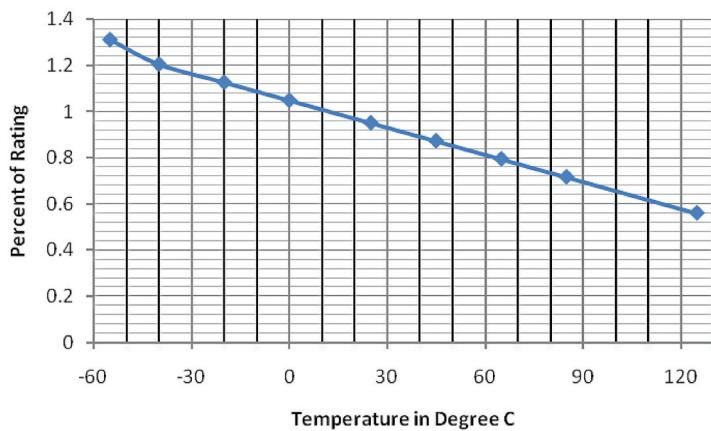
I²t vs. time curves



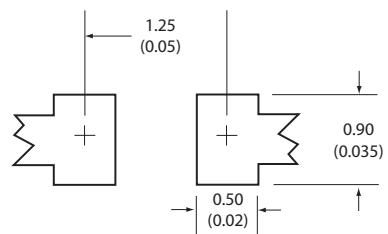
I^2t vs. current curves



Temperature derating curve

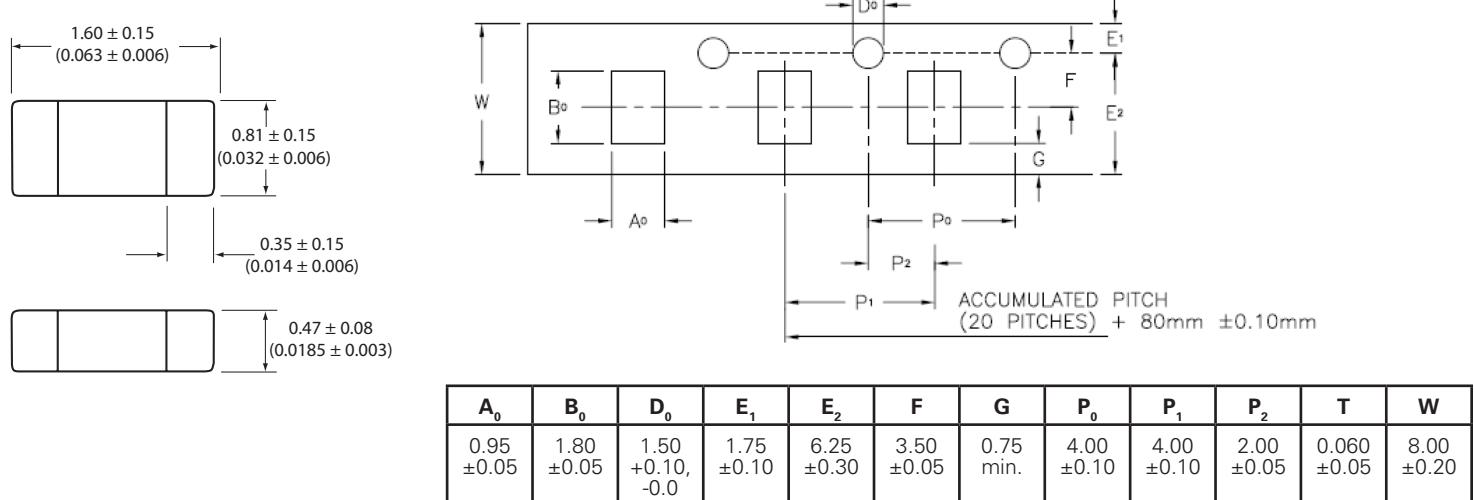


Pad layout



Dimensions - mm (in)

Drawing not to scale.



Product characteristics

Operating temperature	-40 °C to +85 °C, with proper derating factor applied
Storage temperature	-40 °C to +85 °C
Load humidity	MIL-STD-202G, Method 103B (1000 hr @ +85 °C / 85% RH & 10% rated current)
Moisture resistance	MIL-STD-202, Method 106E (50 cycles)
Thermal shock	MIL-STD-202, Method 107D (-65 °C to +125 °C, 100 cycles)
Vibration test	MIL-STD-202, Method 204D, Test Condition D (10-2,000 Hz)
Mechanical shock resistance	MIL-STD-202, Method 213B (3000 G / 0.3 ms)
Salt spray resistance	MIL-STD-202, Method 101, Test Condition B (48 hour exposure)
Insulation resistance	The insulation resistance after breaking capacity test is higher than 0.1MΩ when measured by 2X rated voltage
Solderability	J-STD-002C Method B1 (Dip and Look Test), Method G1 (Wetting Balance Test), Method D (Resistance to Dissolution / Dewetting of Metalization)
Resistance to soldering heat	MIL-STD-202, Method 210F (Solder dip +260 °C, 60 seconds / Solder Iron +350 °C, 3-5 seconds)
High temperature life test	MIL-STD-202G, Method 108A (1000 Hours @ +70 °C & 60% rated current)
Resistance to solvents	MIL-STD-202, Method 215K

Solder reflow profile

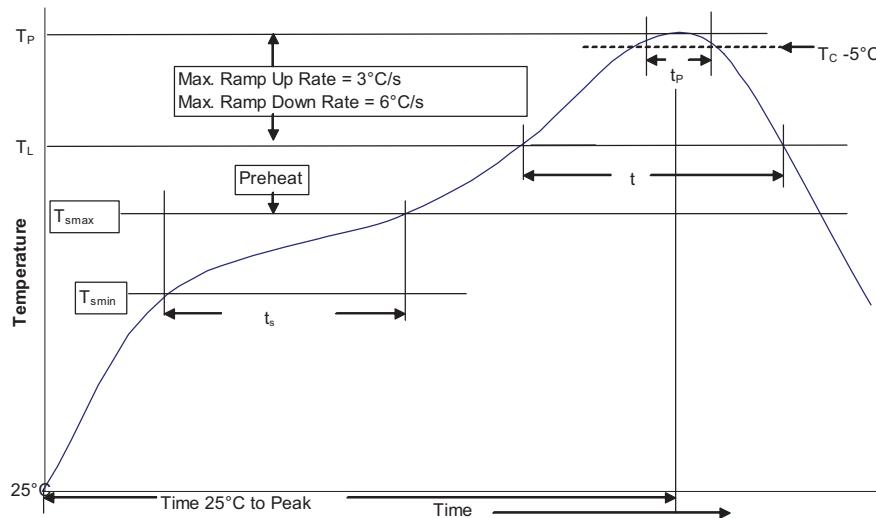


Table 1 - Standard SnPb Solder (T_c)

Package Thickness	Volume mm ³ <350	Volume mm ³ ≥350
<2.5mm	235°C	220°C
≥2.5mm	220°C	220°C

Table 2 - Lead (Pb) Free Solder (T_c)

Package Thickness	Volume mm ³ <350	Volume mm ³ 350 - 2000	Volume mm ³ >2000
<1.6mm	260°C	260°C	260°C
1.6 - 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

Reference JDEC J-STD-020

Profile Feature	Standard SnPb Solder	Lead (Pb) Free Solder
Preheat and Soak	<ul style="list-style-type: none"> Temperature min. (T_{smin}) Temperature max. (T_{smax}) Time (T_{smin} to T_{smax}) (t_s) 	100°C 150°C 60-120 Seconds
Average ramp up rate T_{smax} to T_p	3°C/ Second Max.	3°C/ Second Max.
Liquidous temperature (T_L)	183°C	217°C
Time at liquidous (t_L)	60-150 Seconds	60-150 Seconds
Peak package body temperature (T_p)*	Table 1	Table 2
Time (t_p)** within 5 °C of the specified classification temperature (T_c)	20 Seconds**	30 Seconds**
Average ramp-down rate (T_p to T_{smax})	6°C/ Second Max.	6°C/ Second Max.
Time 25°C to Peak Temperature	6 Minutes Max.	8 Minutes Max.

* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

** Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.

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Eaton
Electronics Division
1000 Eaton Boulevard
Cleveland, OH 44122
United States
www.eaton.com/electronics

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