

CC06H

High I²t Chip™ 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

- cULus Recognized Guide and Card JDXY2/JDXY8, 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

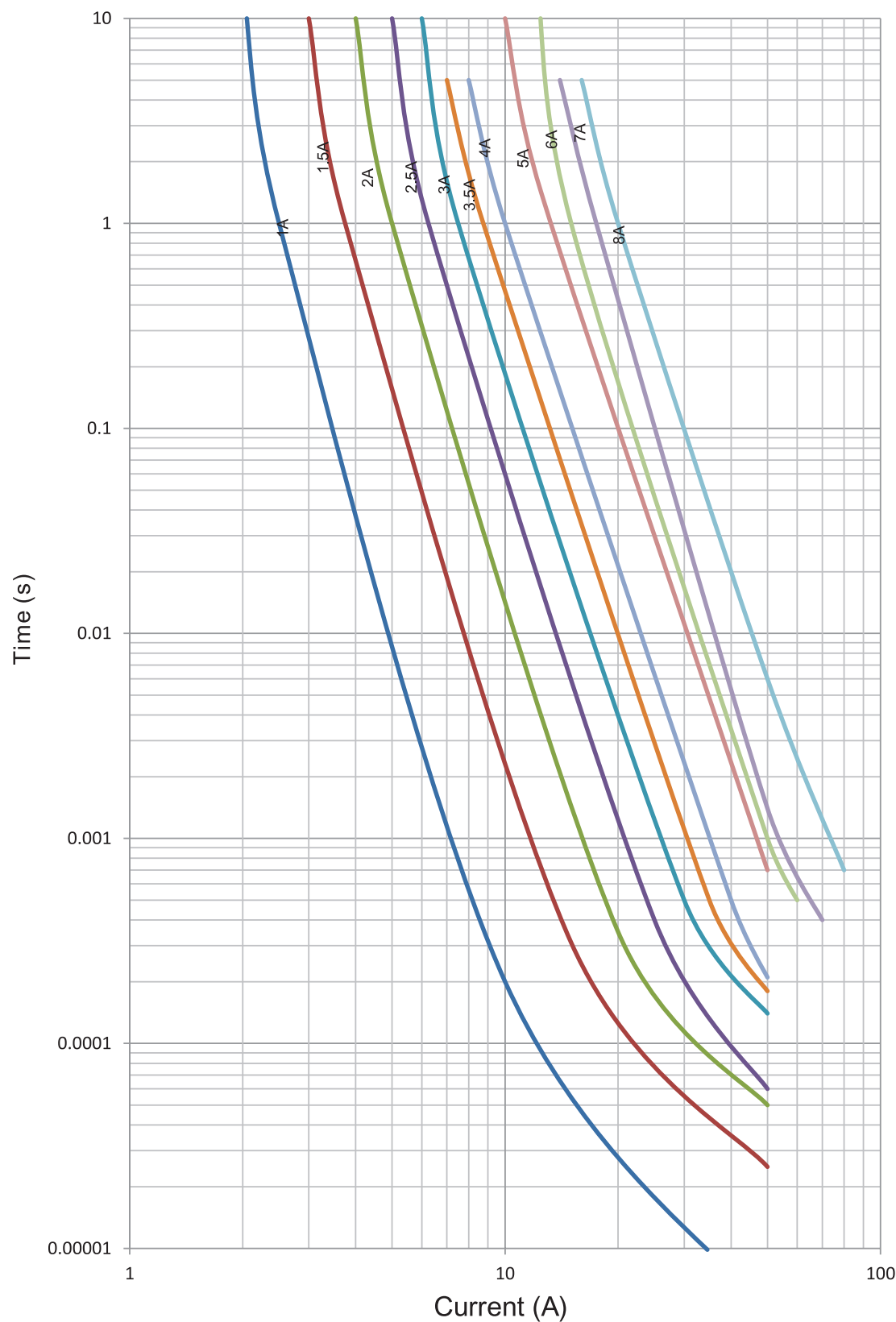
Amp Rating	% of Amp Rating	Opening Time
1-8 A	100	4 Hours
1-7 A	200	1-60 Seconds
1-8 A	250	5 Seconds Max

Specifications

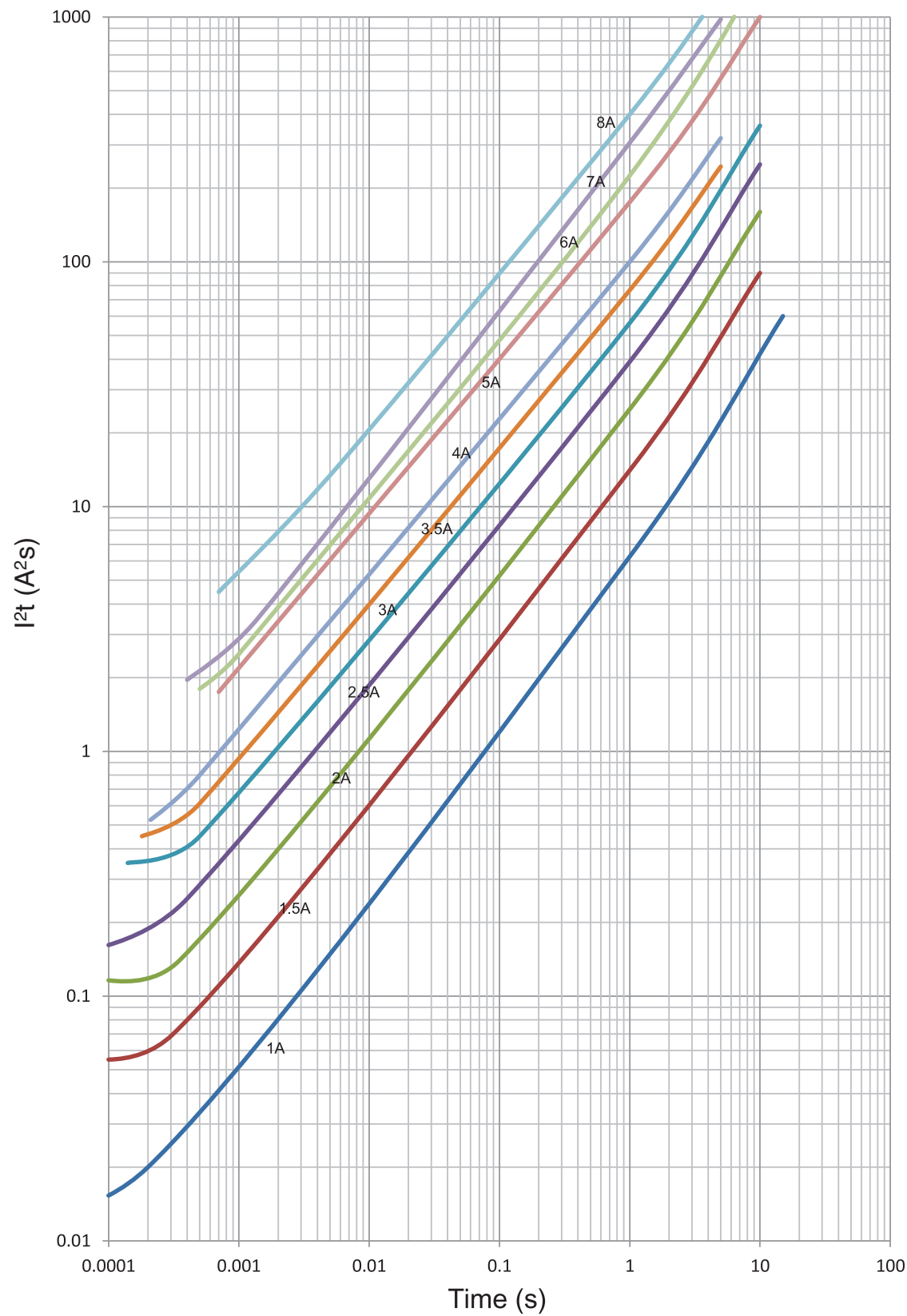
Part Number	Amp Rating ⁵	Voltage Rating (Vdc)	Interrupting Rating ^{1, 4} (A)	Typical Cold Resistance ² (Ω)	Typical Pre-Arcing ³ (I ² t)	Typical Voltage Drop (mV)	Typical Power Dissipation (W)	Alpha Marking	Agency Information (cURus)
CC06H1A	1	32	50	0.25	0.02	310	0.32	B	x
CC06H1.5A	1.5	32	50	0.13	0.07	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 -
FOR REFERENCE ONLY - CONTROLLED VALUES HELD BY PLANT AND SUBJECT TO CHANGE WITHOUT NOTICE.
3. Typical Pre-arcing I²t 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 MΩ 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.

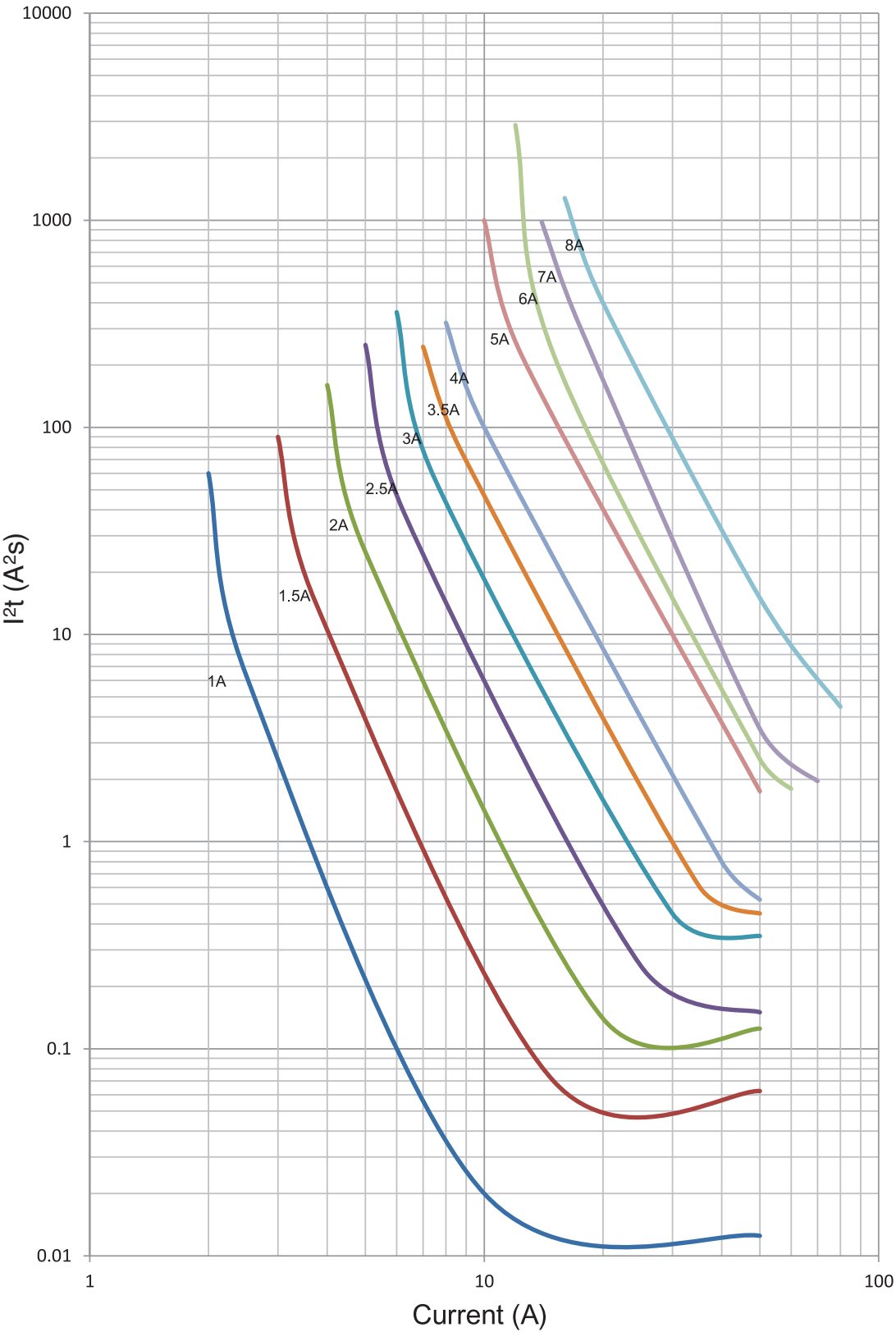
Time-current curves — average melt



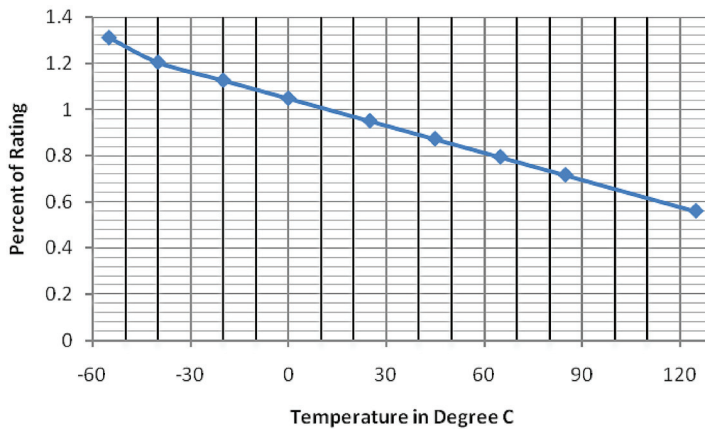
I²t vs. time curves



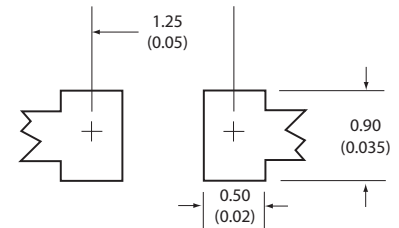
I²t vs. current curves



Temperature derating curve

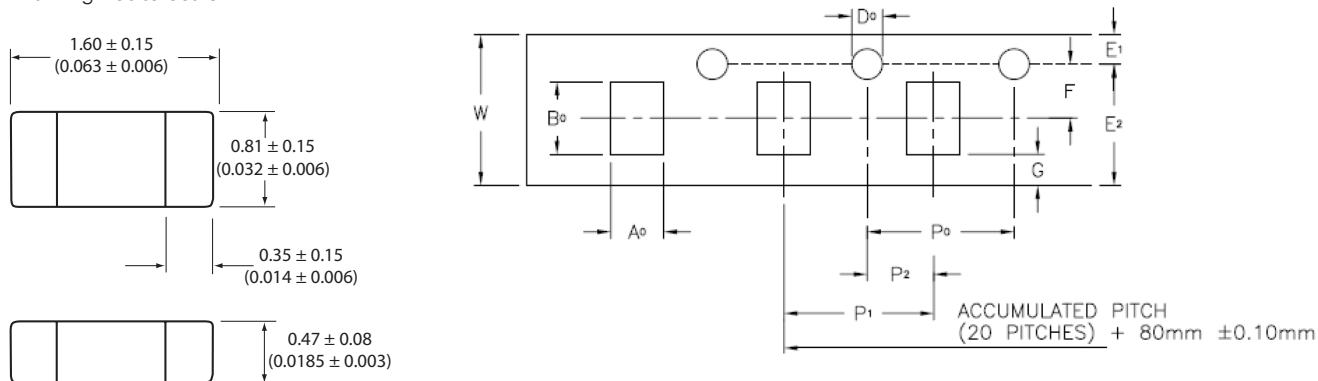


Pad layout



Dimensions - mm (in)

Drawing not to scale.



A ₀	B ₀	D ₀	E ₁	E ₂	F	G	P ₀	P ₁	P ₂	T	W
0.95 ±0.05	1.80 ±0.05	1.50 +0.10, -0.0	1.75 ±0.10	6.25 ±0.30	3.50 ±0.05	0.75 min.	4.00 ±0.10	4.00 ±0.10	2.00 ±0.05	0.060 ±0.05	8.00 ±0.20

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

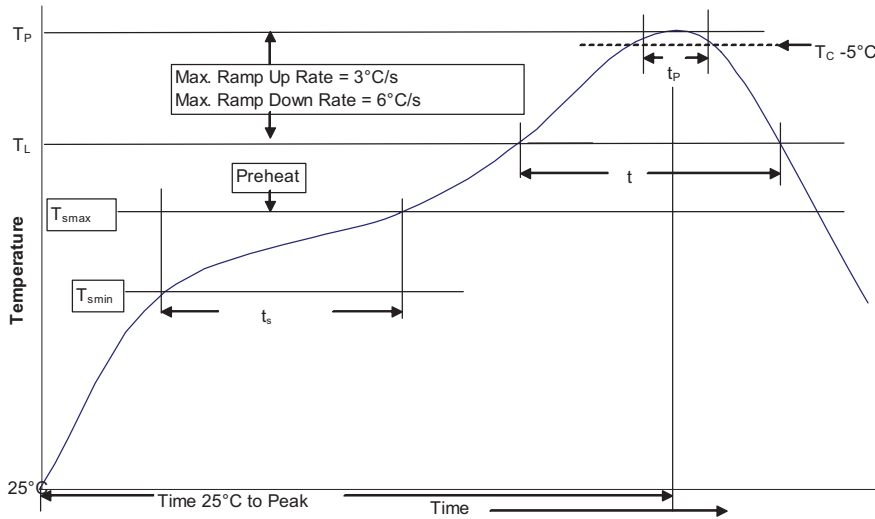


Table 1 - Standard SnPb Solder (T_C)

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

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

Package Thickness	Volume ≤ 350 mm ³	Volume 350 - 2000 mm ³	Volume > 2000 mm ³
<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 JEDEC J-STD-020

Profile Feature	Standard SnPb Solder	Lead (Pb) Free Solder
Preheat and Soak		
• Temperature min. (T_{smin})	100°C	150°C
• Temperature max. (T_{smax})	150°C	200°C
• Time (T_{smin} to T_{smax}) (t_s)	60-120 Seconds	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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