

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

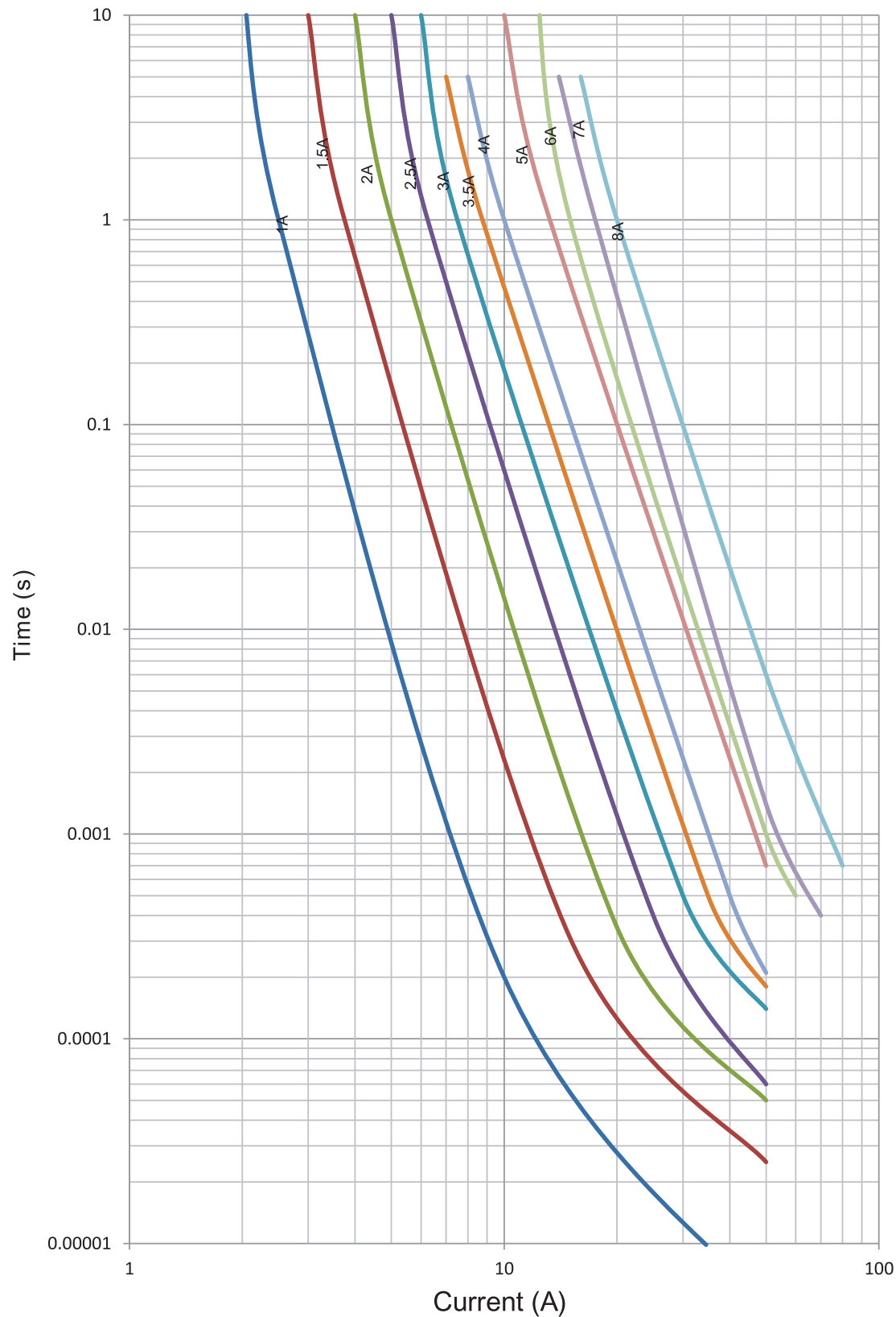
Amp Rating	% of Amp Rating	Opening Time
1-8 A	100	4 Hours
1-7 A	200	1-60 Seconds
1-8 A	250	5 Seconds Max

Specifications

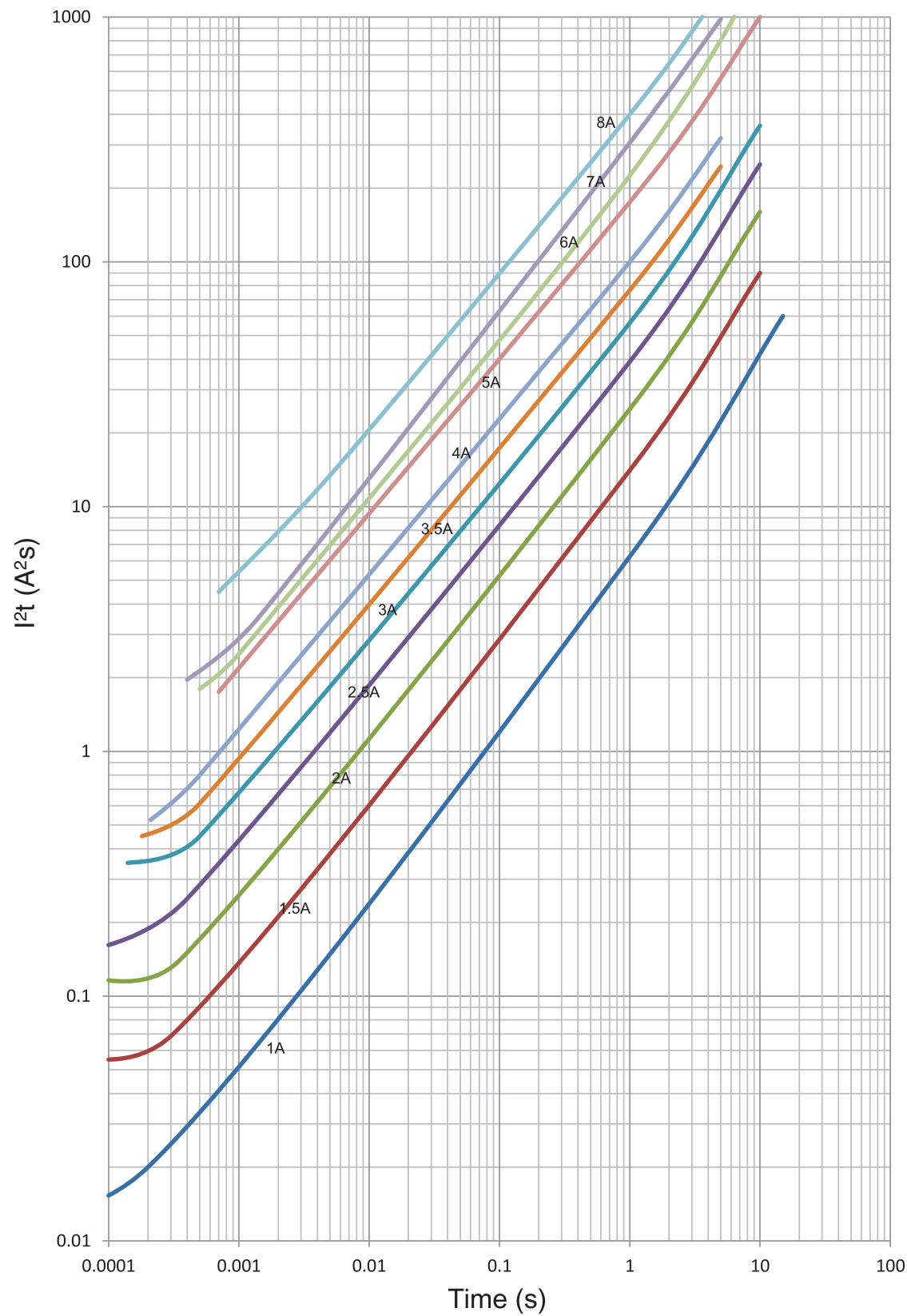
Part Number	Amp Rating ⁵	Voltage Rating (Vdc)	Interrupting Rating ^{1, 4} (A)	Typical Cold Resistance ² (Ω)	Typical Pre-Arcing ³ (I ² t)	Typical Voltage Drop (mV)	Typical Power Dissipation (W)	Alpha Marking	Agency Information (cURus)
CC06H1A	1	32	50	0.25	0.02	310	0.32	B	x
CC06H1.5A	1.5	32	50	0.13	0.07	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.

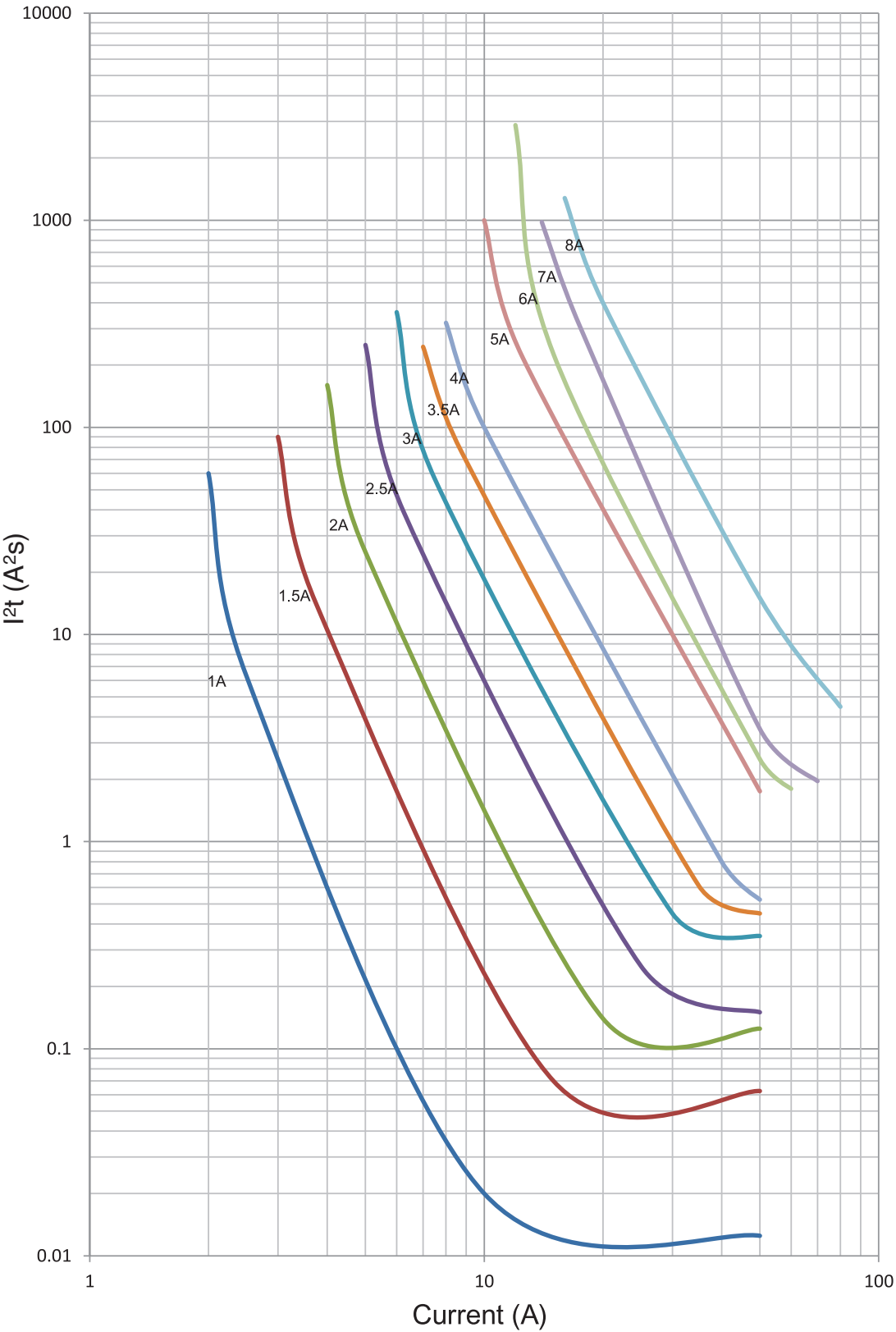
Time-current curves — average melt



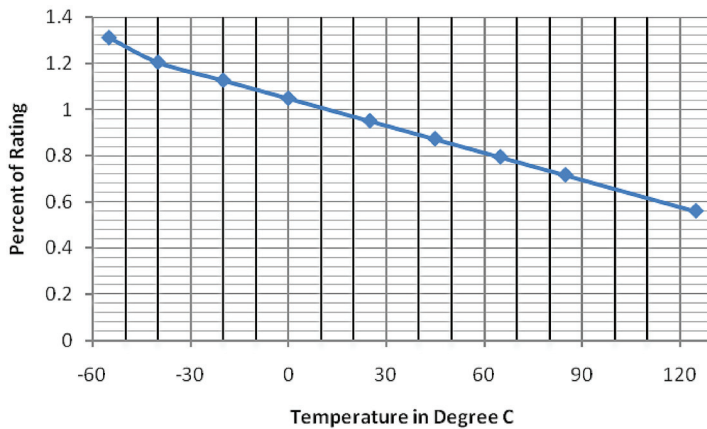
I²t vs. time curves



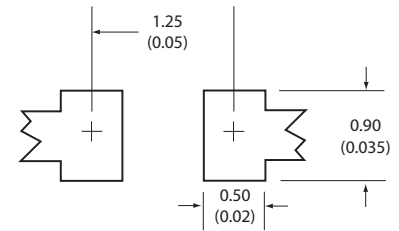
I²t vs. current curves



Temperature derating curve

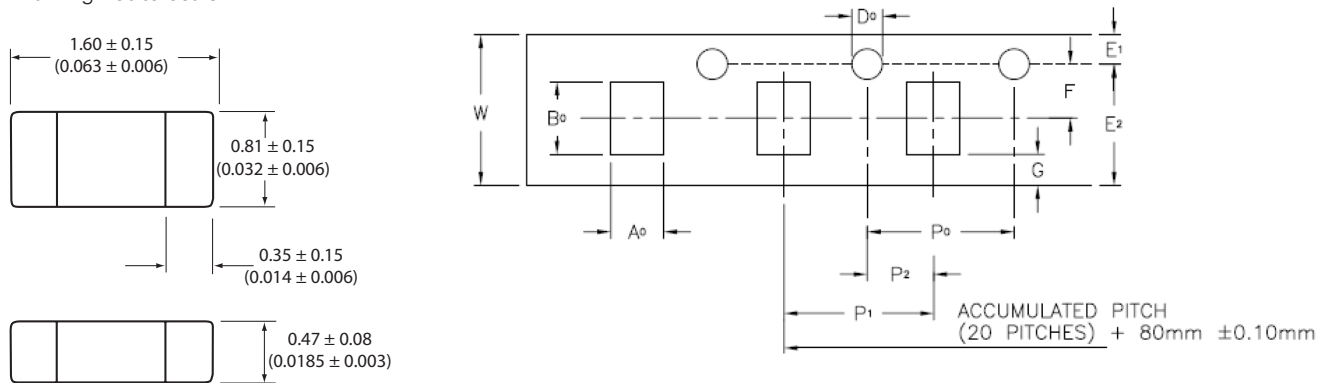


Pad layout



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 0.1M Ω 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

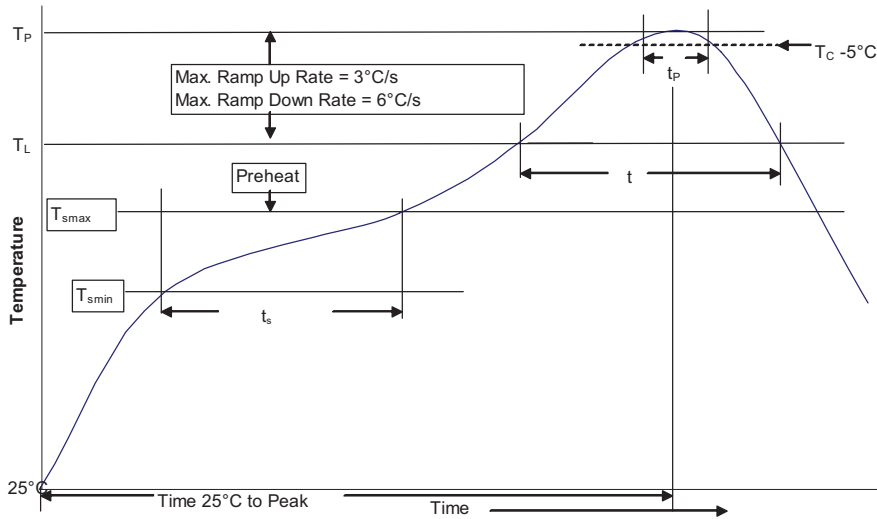


Table 1 - Standard SnPb Solder (T_c)

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 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.

Life Support Policy: Eaton does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin.

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

© 2017 Eaton
All Rights Reserved
Printed in USA
Publication No. 4346 BU-SB14476
June 2017