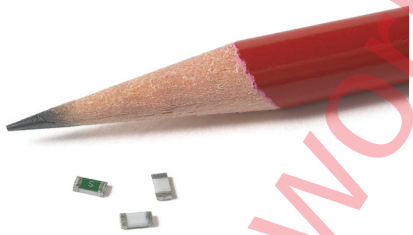
Bussmann CC12H Series

High I²t Chip™ fuses



Product description:

- Halogen free, lead free, RoHS compliant
- High I²t 1206 footprint surface mount fuse
- High inrush withstand capability
- Excellent temperature and cycling characteristics
- RoHS compliant, and lead free and halogen free construction
- Compatible with solder reflow and wave solder

Applications

- Flat panel displays and televisions
- Automotive infotainment and ECU
- Computer servers
- Portable electronics
- Mobile device chargers

Agency information

- cURus Recognition File number: E19180, Guide JDYX2/JDYX8
- AEC-Q200 Automotive Grade Certified

Ordering

- 3000 fuses on 8mm tape-and-reel on a 7 inch (178mm) reel per EIA Standard 481. Specify Catalog Symbol and package code suffix "-TR" (e.g., CC12H1A-TR)

www.datasheet.world

Bussmann by EATON

The Bussmann brand of circuit protection products (formerly of the Bussmann Division of Cooper Industries) is now part of Eaton's Electrical Group, Electronics Division.

Bussmann is now part of Eaton
Same great products plus even more.

Electrical characteristics

Amp Rating	% of Amp Rating	Opening Time
750mA-20A	100%	4 Hours, min
1-3A	200%	1-60 Seconds
1-5A	250%	5 Seconds, max
1-5A	300%	0.1-3 Seconds
750mA, 6-20A	350%	5 Seconds, max
750mA-20A	1000%	0.2-20mS

Environmental data

- Thermal Shock: MIL-STD-202, Method 107, Test Condition B
- Vibration: MIL-STD-202, Method 204, Test Condition C
- Moisture Resistance: MIL-STD-202, Method 106, 50 day cycle
- Solderability: ANSI/J-STD-002, Test B
- Normal ambient temperature: 23°C
- Operating temperature range -40°C to +125°C

Soldering method

- Wave Solder Immersion: 260°C, 10 seconds maximum.
- Solder Reflow: 260°C, 30 seconds maximum.

Specifications

Catalog Symbol	Current Rating (amps)	Voltage Rating (Vdc)	Interrupting Rating* (amps)	Resistance (Ω)** Typical	Typical Melt (I²t)† DC	Typical Voltage Drop (mV)‡	Alpha Marking
CC12H750mA	0.75	63	50	0.780	0.15	840	E
CC12H1A	1	63	50	0.470	0.18	490	H
CC12H1.5A	1.5	63	50	0.218	0.4	355	K
CC12H2A	2	63	50	0.133	1.1	305	N
CC12H2.5A	2.5	63	50	0.079	1.7	240	O
CC12H3A	3	63	50	0.049	2.2	185	P
CC12H3.5A	3.5	63	50	0.037	2.7	180	R
CC12H4A	4	63	50	0.033	3.2	169	S
CC12H4.5A	4.5	32	100	0.028	4.2	160	X
CC12H5A	5	32	100	0.023	6.0	140	T
CC12H6A	6	32	100	0.0155	8.0	140	F
CC12H7A	7	32	100	0.011	9.0	120	J
CC12H8A	8	32	100	0.007	12.0	80	M
CC12H10A	10	32	100	0.0065	33	90	U
CC12H12A	12	32	100	0.0045	45	80	W
CC12H15A	15	32	100	0.0030	40	70	Y
CC12H20A	20	32	100	0.0020	50	60	Q

* DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source)

** DC Cold Resistance (Measured at 10% of rated current)

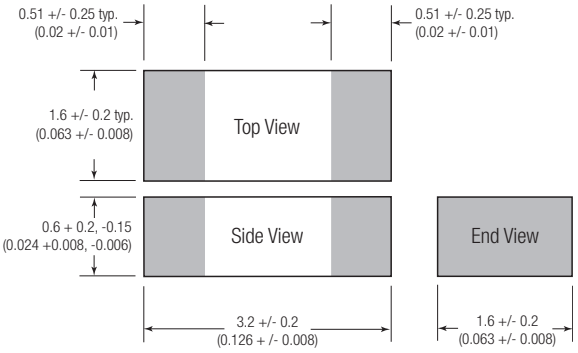
† Typical Melting I²t (Measured with a battery bank at rated DC voltage, 10x-rated current, not to exceed interrupting rating, time constant of calibrated circuit less than 50 microseconds)

‡ Typical Voltage Drop (Measured at rated current after temperature stabilizes)

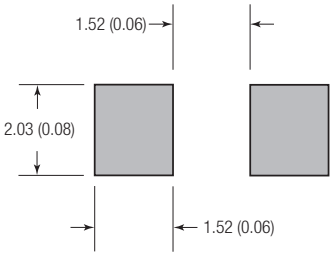
Device designed to carry rated current for four hours minimum. An operating current of 80% or less of rated current is recommended, with further derating required at elevated ambient temperatures.

Dimensions - mm (in)

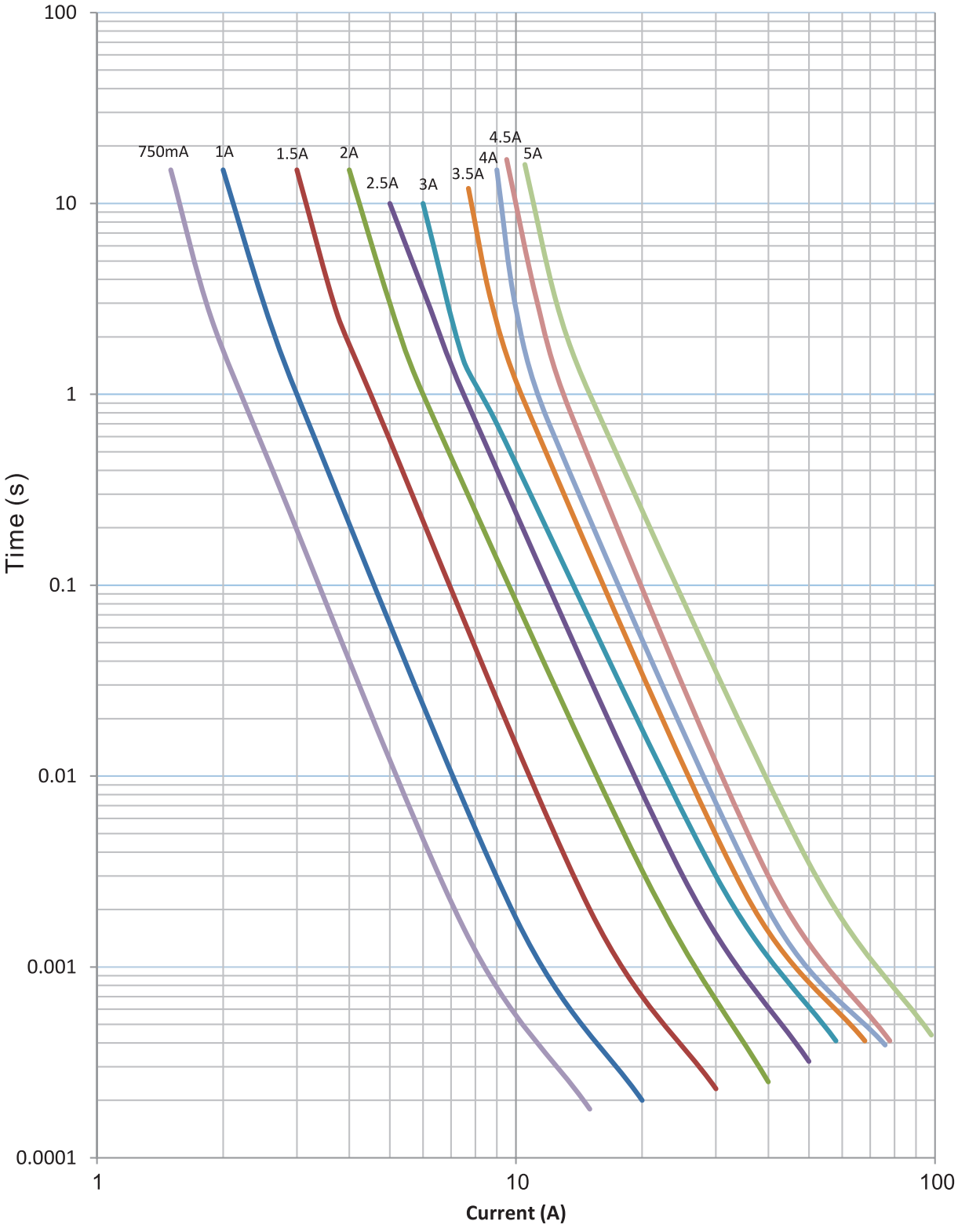
Drawing not to scale.



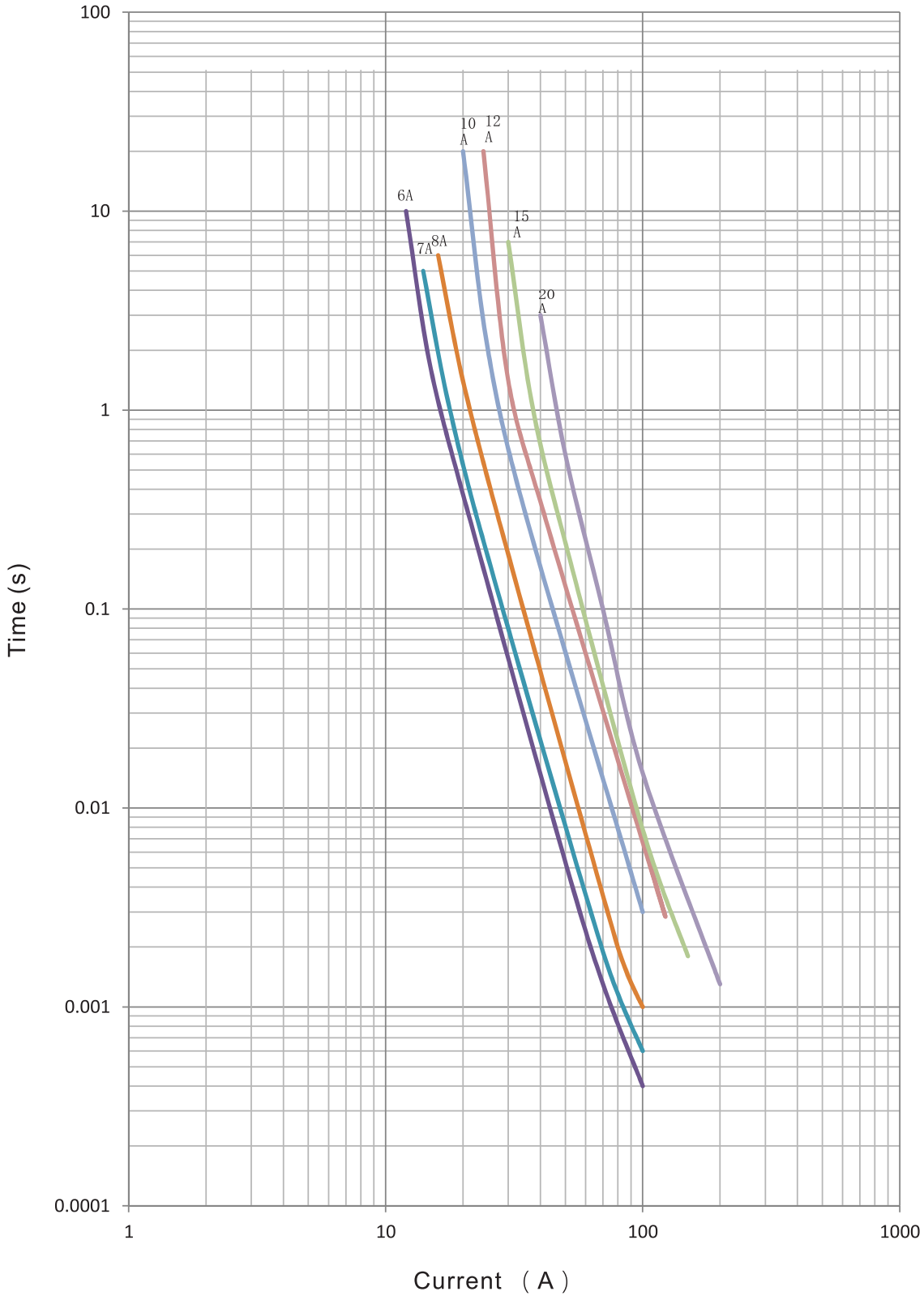
Pad layout



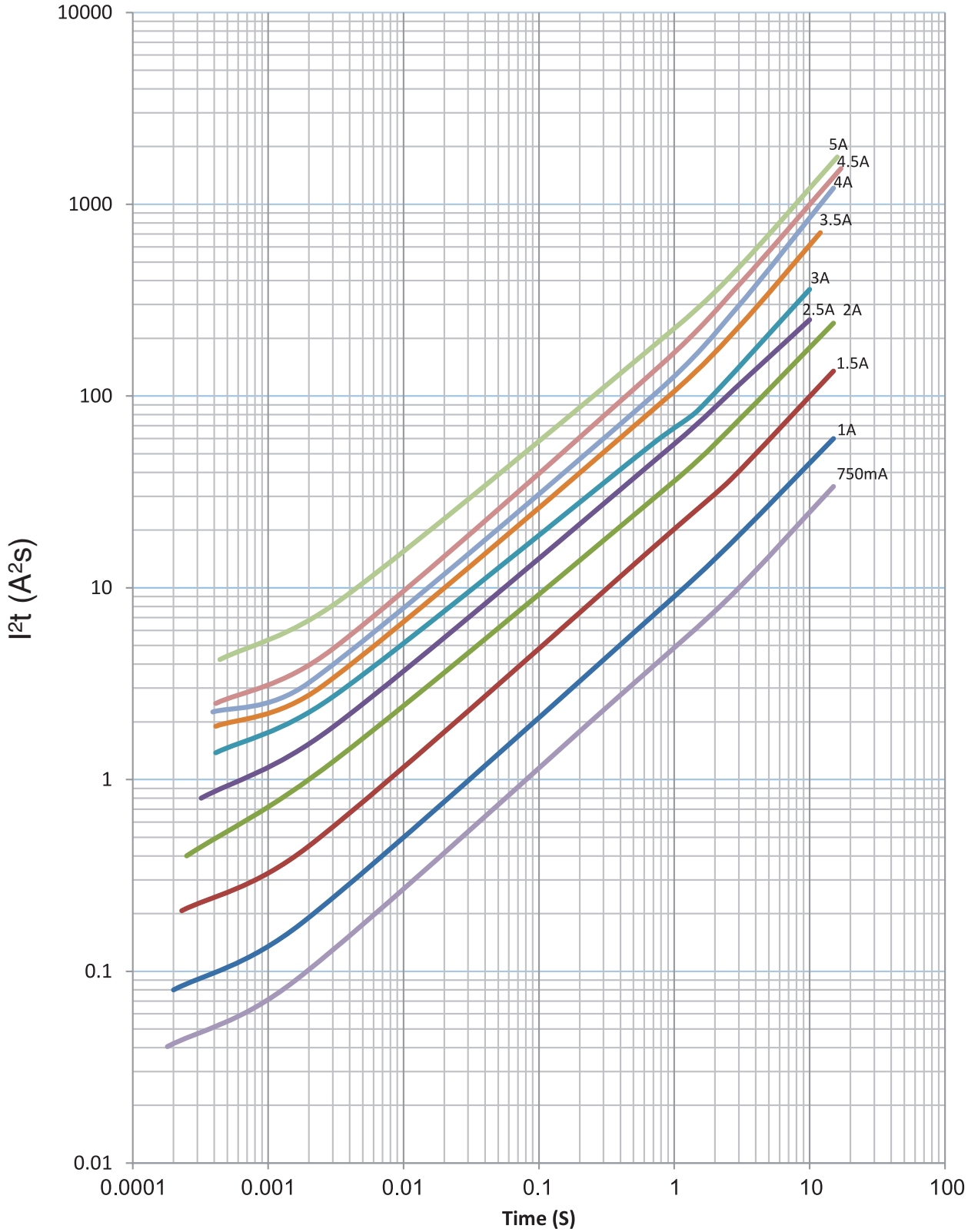
Time-current curves — 750mA-5A average melt



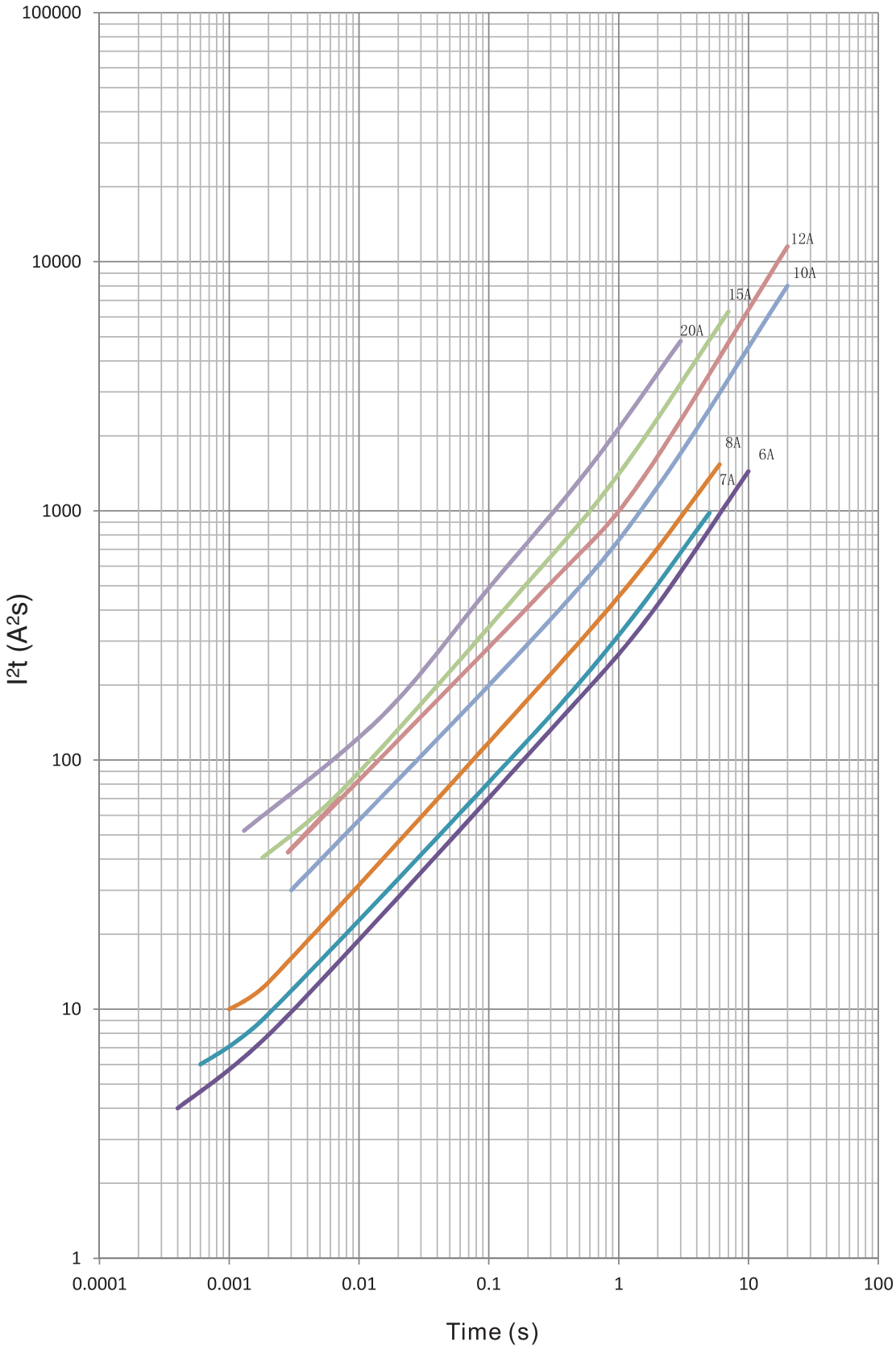
Time-current curves — 6A-20A average melt



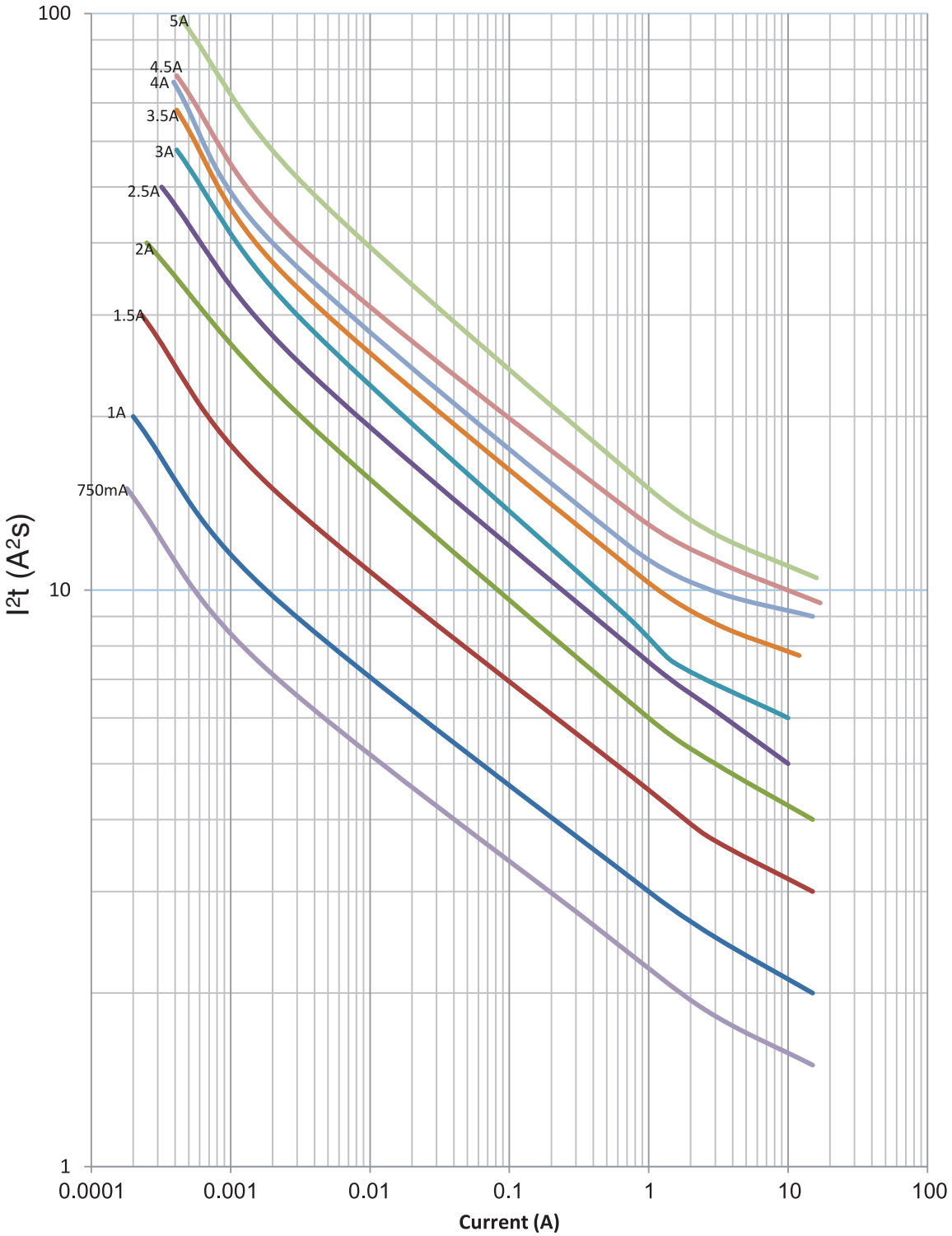
I²t vs. time curves — 750mA-5A



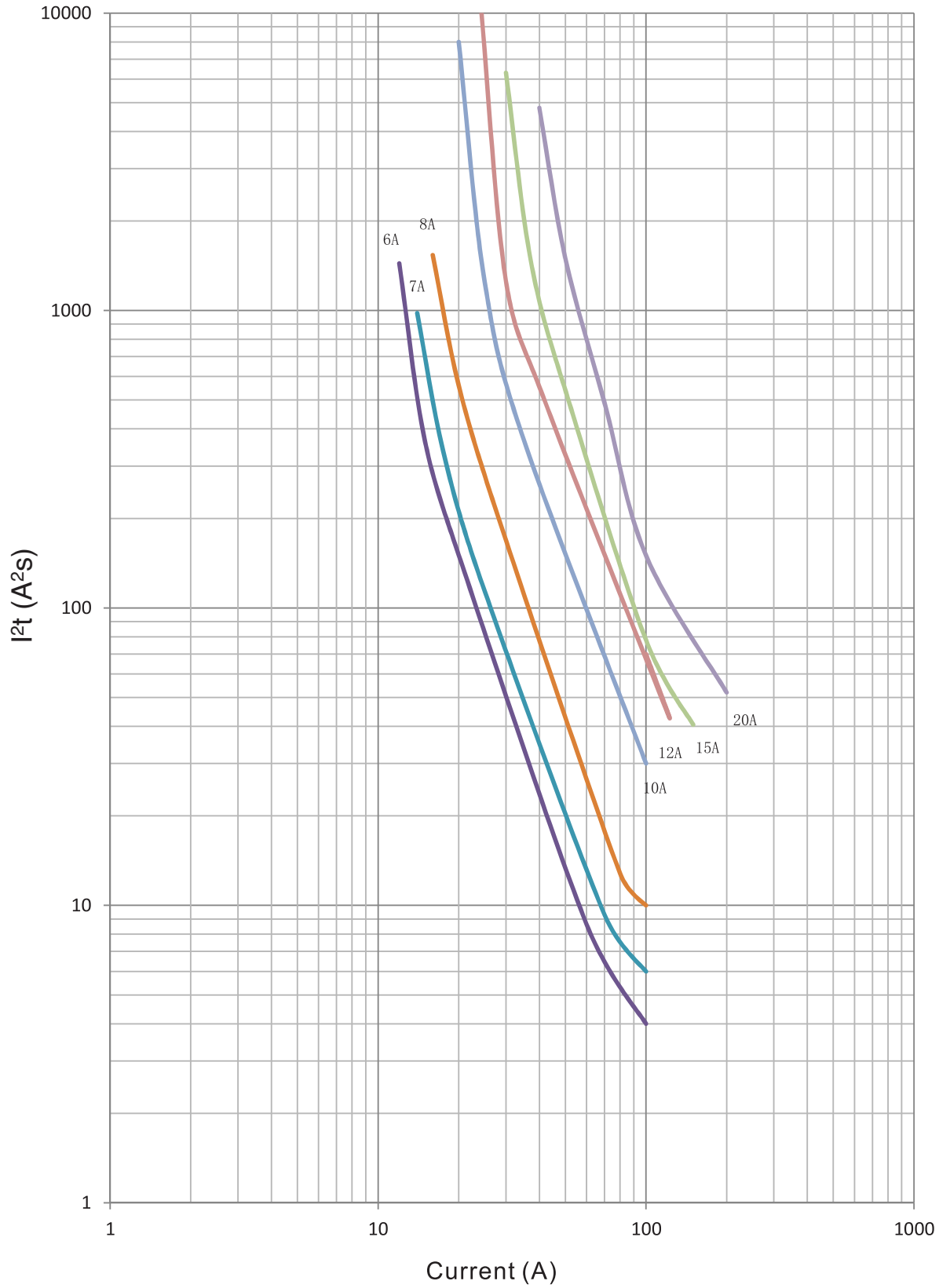
I²t vs. time curves — 6A-20A



I²t vs. current curves — 750mA-5A



I²t vs. current curves — 6A-20A



Solder reflow profile

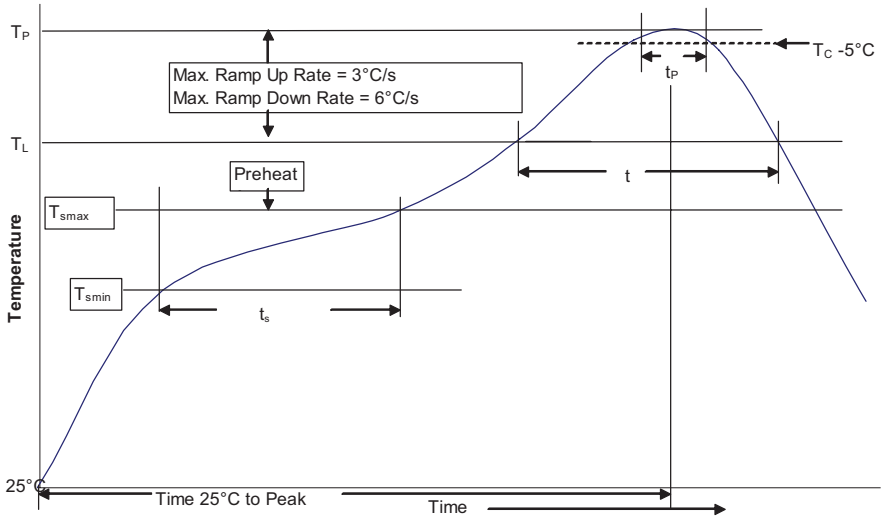


Table 1 - Standard SnPb Solder (T_C)

Package Thickness	Volume mm³ <350	Volume mm³ ≥350
<2.5mm	235°C	220°C
≥2.5mm	220°C	220°C

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

Package Thickness	Volume mm³ <350	Volume mm³ 350 - 2000	Volume mm³ >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-020D

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) Time at liquidous (t_L)		183°C 60-150 Seconds	217°C 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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