### **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.

Snac	いけいへつ	tions
Opeu	IIICa	uons

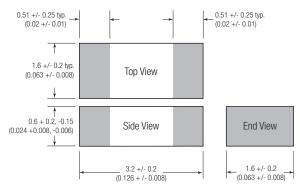
Catalog Symbol	Current Rating (amps)	Voltage Rating (Vdc)	Interrupting Rating* (amps)	Resistance (Ω)** Typical	Typical Melt (I²t)† DC	Typical Voltage Drop (mV)‡	Alpha Marking
CC12H750mA	0.75	63	50	0.780	0.15	840	E
CC12H1A	1	63	50	0.470	0.18	490	Н
CC12H1.5A	1.5	63	50	0.218	0.4	355	K
CC12H2A	2	63	50	0.133	1.1	305	N
CC12H2.5A	2.5	63	50	0.079	1.7	240	0
CC12H3A	3	63	50	0.049	2.2	185	Р
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	Т
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	М
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	Υ
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)

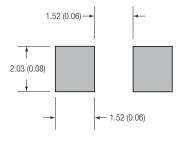
Device designed to carry rated current for four hours minimum. An operating current of 80% or less of rated current is recommended, with further derating required at elevated ambient temperatures.

## Dimensions - mm (in)

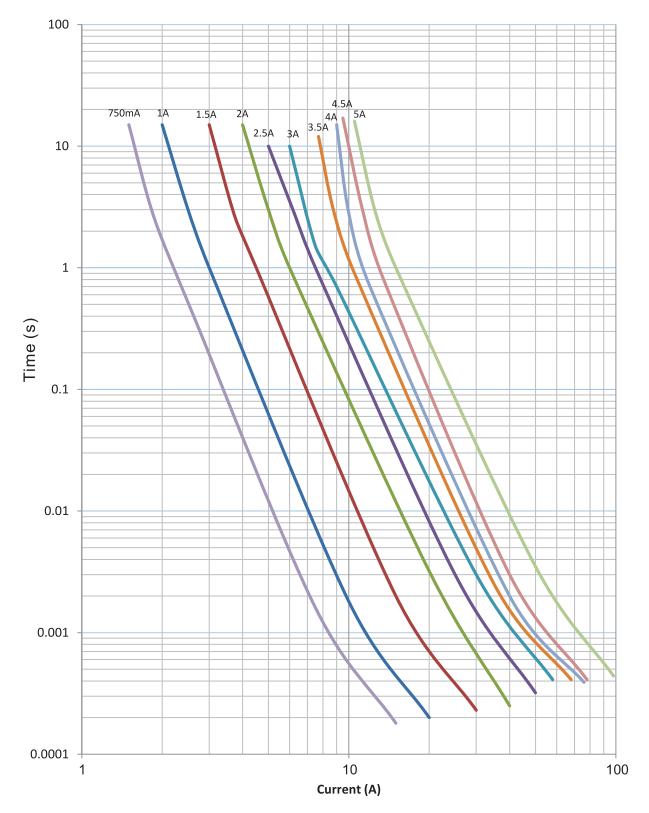
Drawing not to scale.



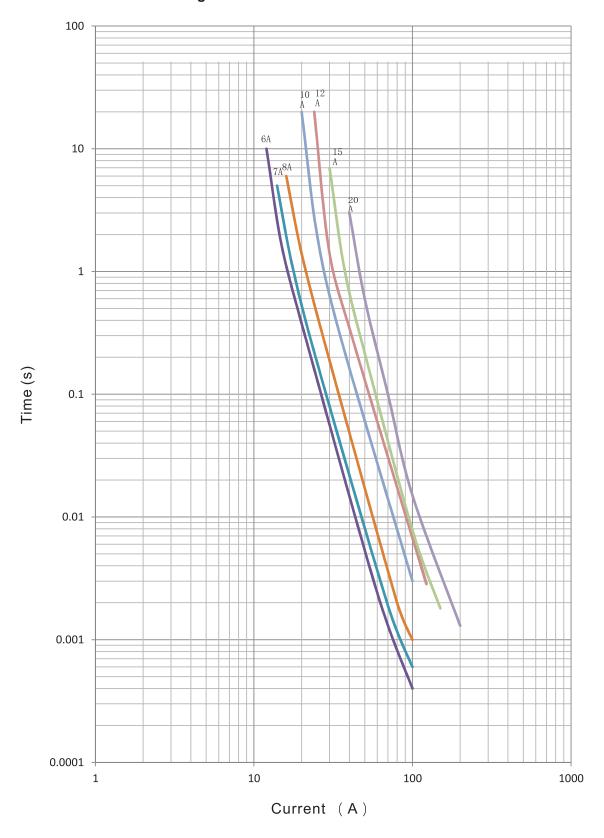
## **Pad layout**



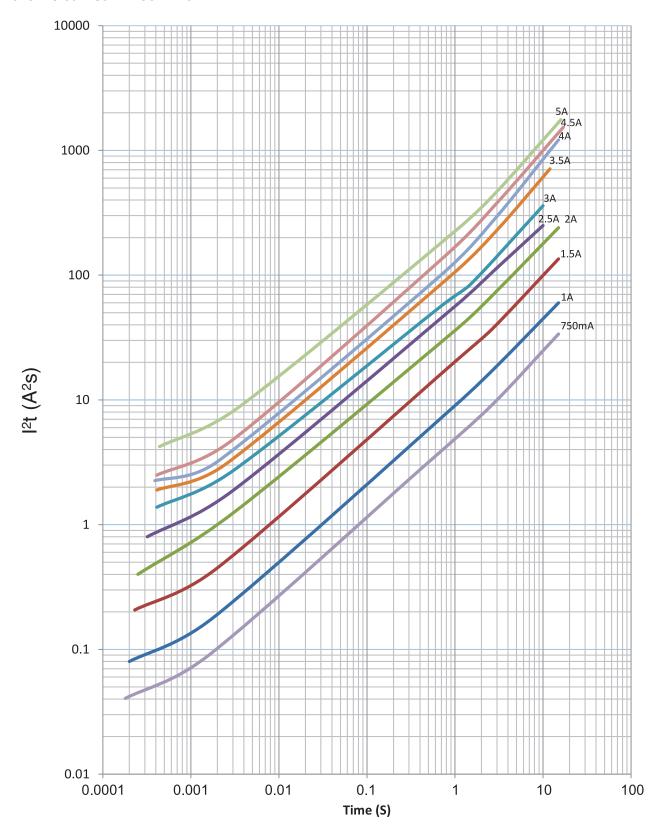
# Time-current curves — 750mA-5A average melt



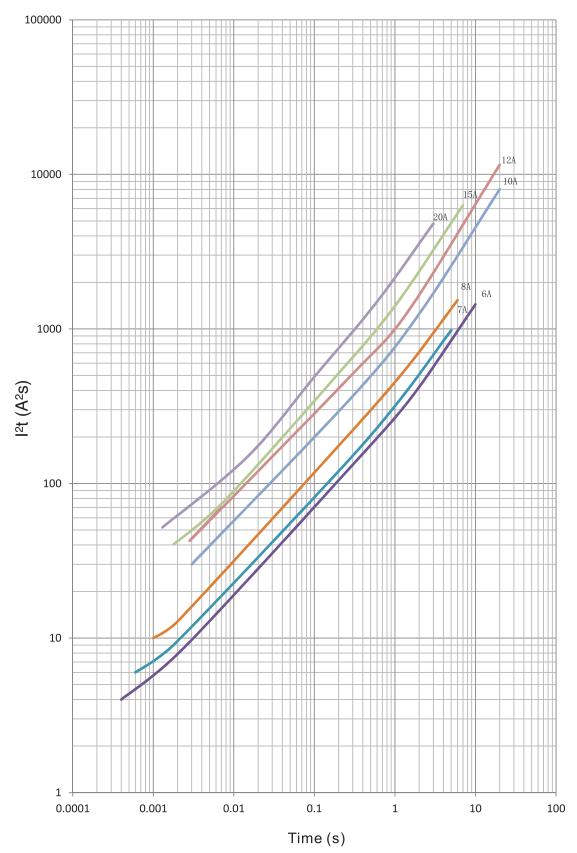
# Time-current curves — 6A-20A average melt



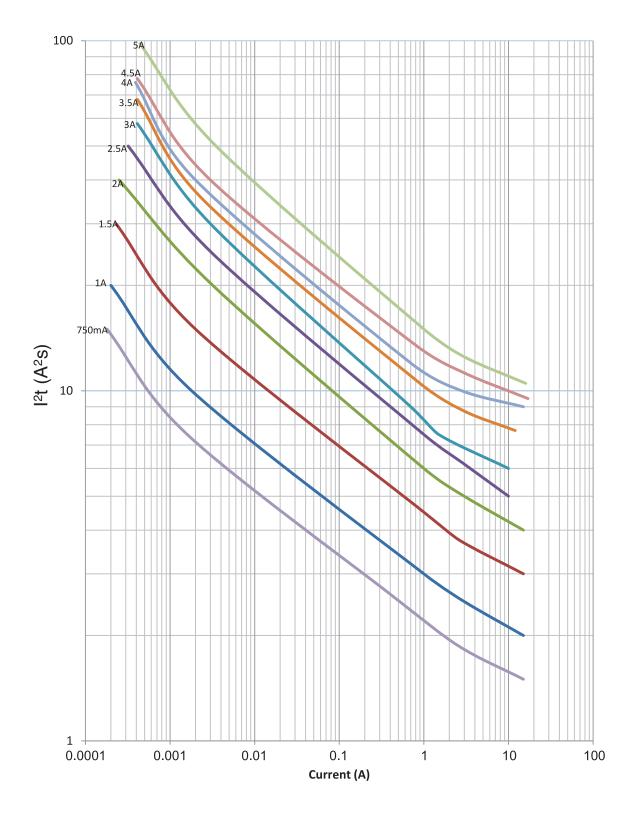
I<sup>2</sup>t vs. time curves — 750mA-5A



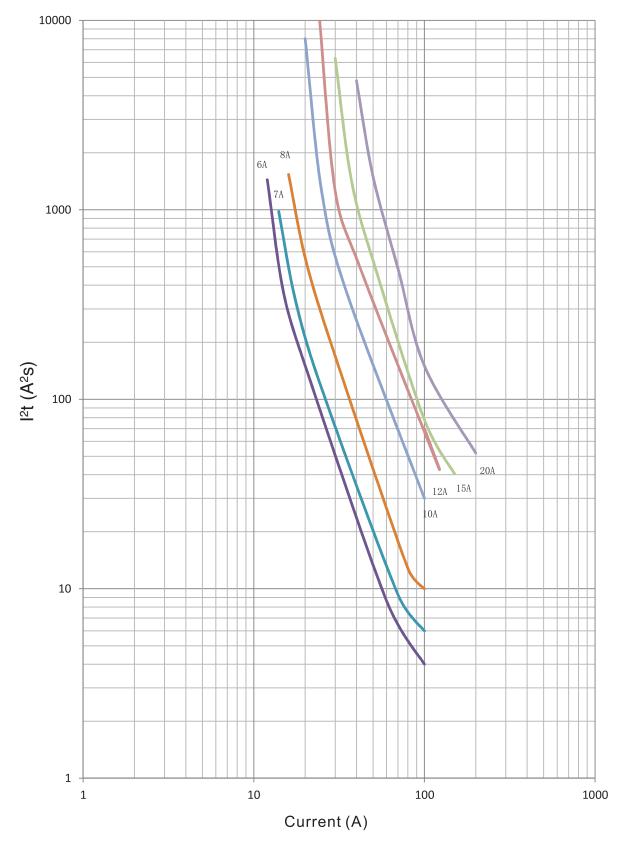
l<sup>2</sup>t vs. time curves — 6A-20A



I<sup>2</sup>t vs. current curves — 750mA-5A



# I<sup>2</sup>t vs. current curves — 6A-20A



### Solder reflow profile

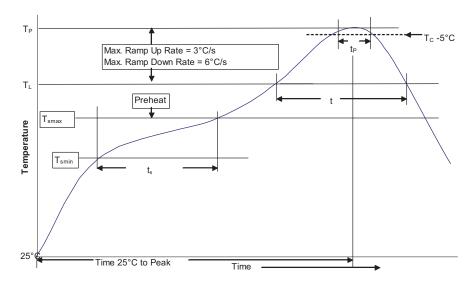


Table 1 - Standard SnPb Solder (T<sub>c</sub>)

	Volume	Volume
Package	mm <sup>3</sup>	mm³
Thickness	<350	≥350
<2.5mm	235°C	220°C
≥2.5mm	220°C	220°C

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

	Volume	Volume	Volume
Package	mm³	mm³	mm³
Thickness	<350	350 - 2000	>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	Preheat and Soak • Temperature min. (T <sub>smin</sub> )		150°C
	Temperature max. (T <sub>smax</sub> )	150°C	200°C
	• Time (T <sub>smin</sub> to T <sub>smax</sub> ) (t <sub>s</sub> )	60-120 Seconds	60-120 Seconds
Average ramp up ra	te T <sub>smax</sub> to T <sub>p</sub>	3°C/ Second Max.	3°C/ Second Max.
Liquidous temperature (TL)		183°C	217°C
Time at liquidous (t <sub>L</sub> )		60-150 Seconds	60-150 Seconds
Peak package body temperature (T <sub>P</sub> )*		Table 1	Table 2
Time (t <sub>p</sub> )** within 5	°C of the specified classification temperature (T <sub>C</sub> )	20 Seconds**	30 Seconds**
Average ramp-down	rate (T <sub>p</sub> to T <sub>smax</sub> )	6°C/ Second Max.	6°C/ Second Max.
Time 25°C to Peak	Temperature	6 Minutes Max.	8 Minutes Max.

<sup>\*</sup> Tolerance for peak profile temperature (Tp) is defined as a supplier minimum and a user maximum.

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<sup>\*\*</sup> Tolerance for time at peak profile temperature (t<sub>D</sub>) is defined as a supplier minimum and a user maximum.