

Type C1Q

Surface Mount Very Fast-Acting Chip Fuse

HF  C1Q Series - 1206 Size

RoHS 6 Compliant

Features

- Fast Acting
- Small size, 1206 SMD
- Current rating from 250mA to 7A
- Wide operating temperature range from -55 °C to 125 °C
- Tape & Reel for automatic SMD placement
- Compatible with reflow and wave soldering
- RoHS 6 compliant (MSL = 1)
- Halogen Free
- Leadfree

Applications

- Notebook
- LCD monitor
- PC computer
- Office electronic equipment
- Industrial equipment
- Medical equipment
- POE, POE+
- LCD / LED monitor
- Power supply
- LCD / LED TV
- DC-DC Converter

LEAD FREE = 
HALOGEN FREE = 



Electrical Characteristics (UL/CSA/STD. 248-14)

Testing Current	Blow Time	
	Minimum	Maximum
100%	4 Hrs.	N/A
200%	N/A	5 Sec
300%	N/A	0.2 Sec

Safety Agency Approvals

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE	VOLTAGE RATING (V)	AMPERE RANGE / VOLT @ I.R. ABILITY*
	LR39772	250mA - 5A / 125V AC 63V DC 7A / 63V AC & DC	250mA - 5A / 125V AC @ 100A 63V DC @ 50A
	E20624		
	E20624		7A / 63V AC & DC @ 50A

* I.R. = INTERRUPTING RATING = SHORT CIRCUIT RATING (AMPS)

Physical Specifications

Materials	Body : Ceramic Substrate
	Terminations : Ag / Ni / Sn (100% Lead-free)
	Element Cover Coating : Lead-free Glass
Marking	On Fuse :
	None
	On Label :
	"bel", "C1Q", "Current Rating", "Voltage Rating", "Interrupting Rating", " Appropriate Safety Logos" and "  ", "  "(China RoHS compliant).

Specifications subject to change without notice



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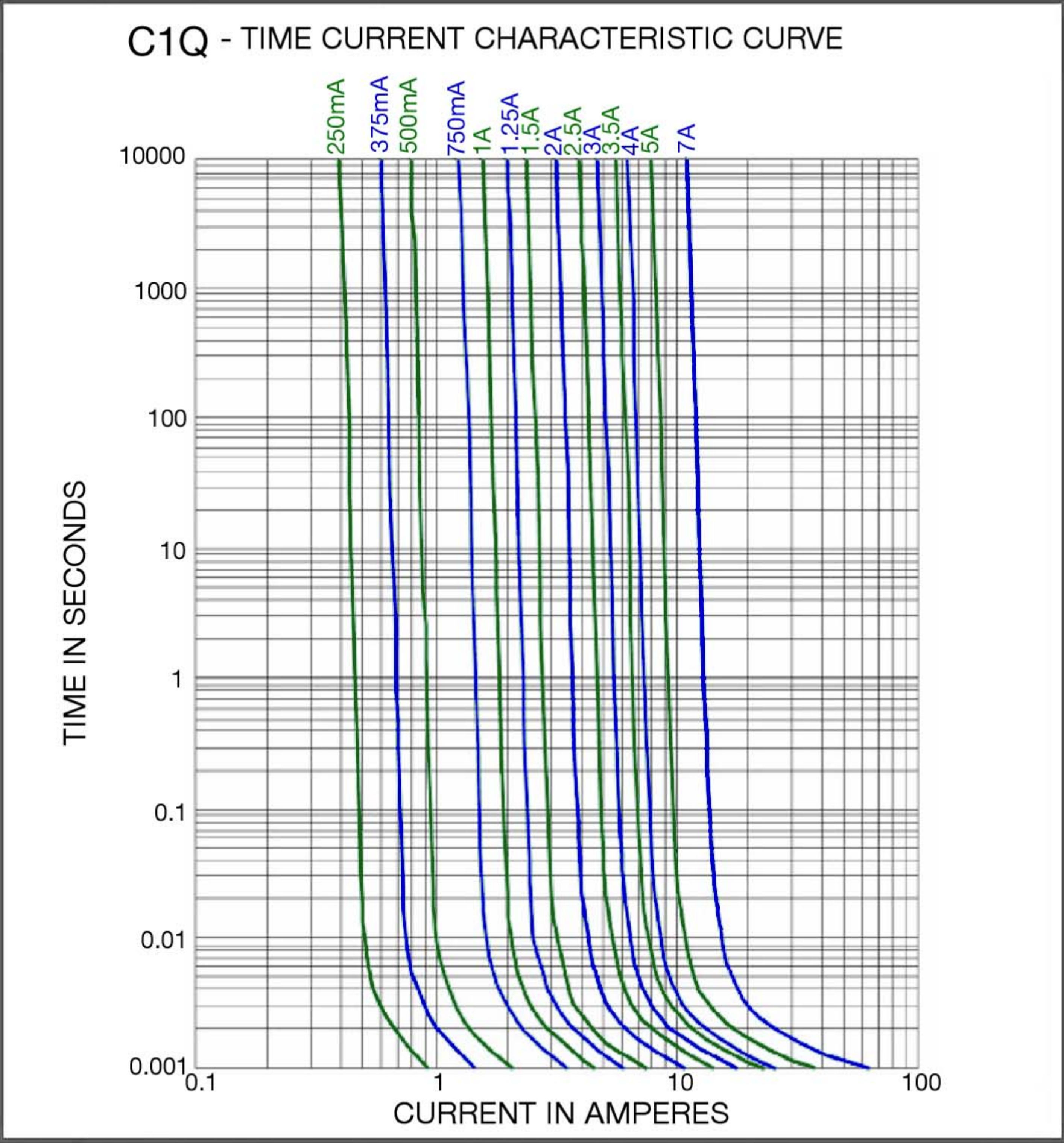
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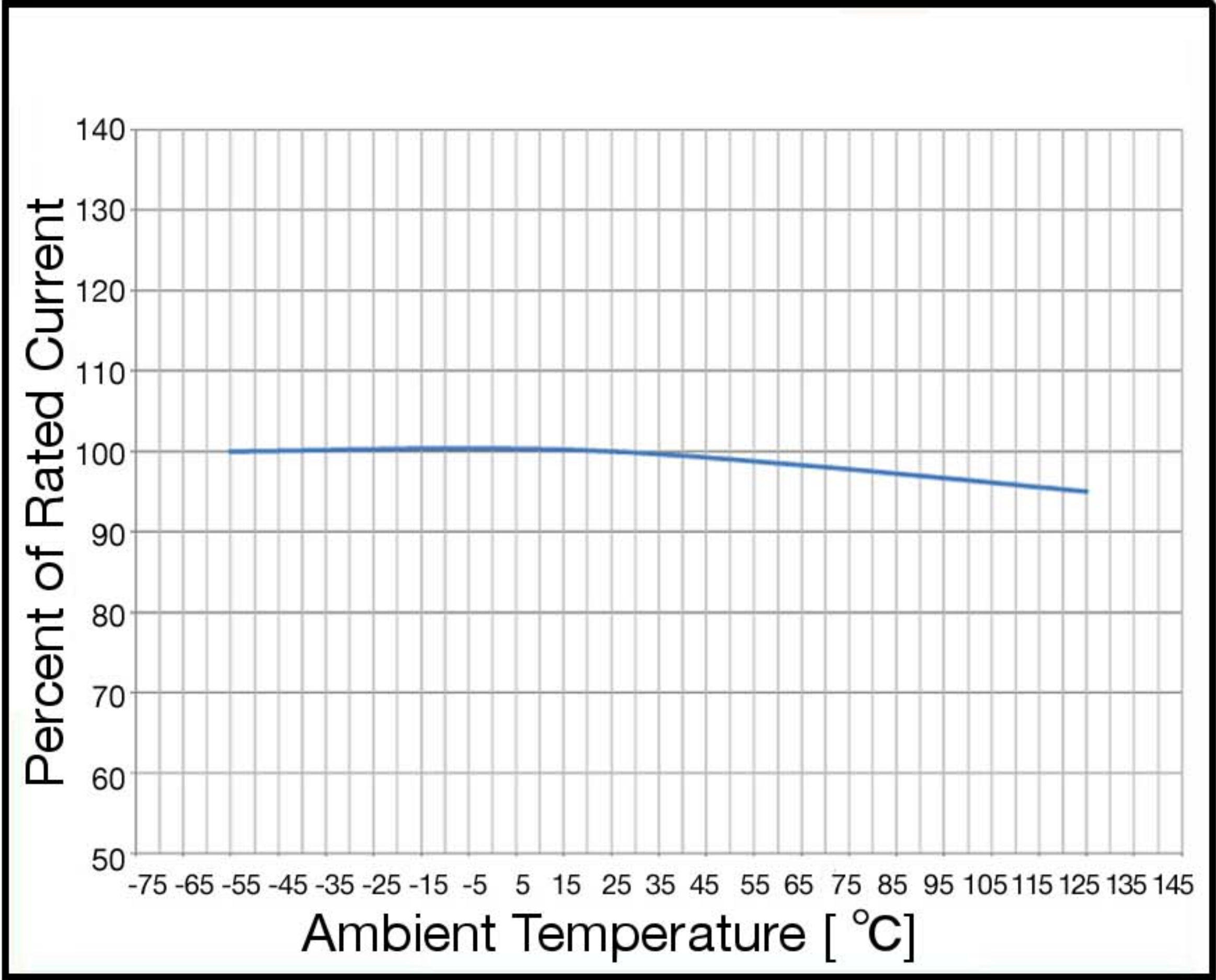
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Average Time Current Curve



Temperature Derating Curve



Electrical Specifications

Catalog Number	Ampere Rating (A)	Nominal Cold Resistance (ohm)	Nominal Volt-drop @100% In (Volt) max.	Voltage and Interrupting Ratings	Melting I²T <10 m Sec (A² Sec)	Melting I²T @10 In (A² Sec)	Nominal Power Dissipation @100% In (W)	Agency Approvals		
										
C1Q 250	250mA	0.85	0.250	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	0.0018	0.0001	0.06	Y		Y
C1Q 375	375mA	0.48	0.222		0.0044	0.0004	0.08	Y		Y
C1Q 500	500mA	0.32	0.195		0.008	0.001	0.10	Y		Y
C1Q 750	750mA	0.175	0.163		0.019	0.002	0.12	Y		Y
C1Q 1	1A	0.124	0.156		0.035	0.004	0.16	Y		Y
C1Q 1.25	1.25A	0.092	0.149		0.057	0.006	0.19	Y		Y
C1Q 1.5	1.5A	0.075	0.142		0.084	0.010	0.21	Y		Y
C1Q 2	2A	0.054	0.140		0.15	0.019	0.28	Y		Y
C1Q 2.5	2.5A	0.042	0.138		0.25	0.032	0.35	Y		Y
C1Q 3	3A	0.035	0.136		0.37	0.050	0.41	Y		Y
C1Q 3.5	3.5A	0.030	0.140		0.53	0.072	0.49	Y		Y
C1Q 4	4A	0.028	0.144		0.67	0.094	0.58	Y		Y
C1Q 5	5A	0.022	0.154		1.10	0.16	0.77	Y		Y
C1Q 7	7A	0.015	0.160		3.10	0.37	1.12		Y	

Consult manufacturer for other ratings

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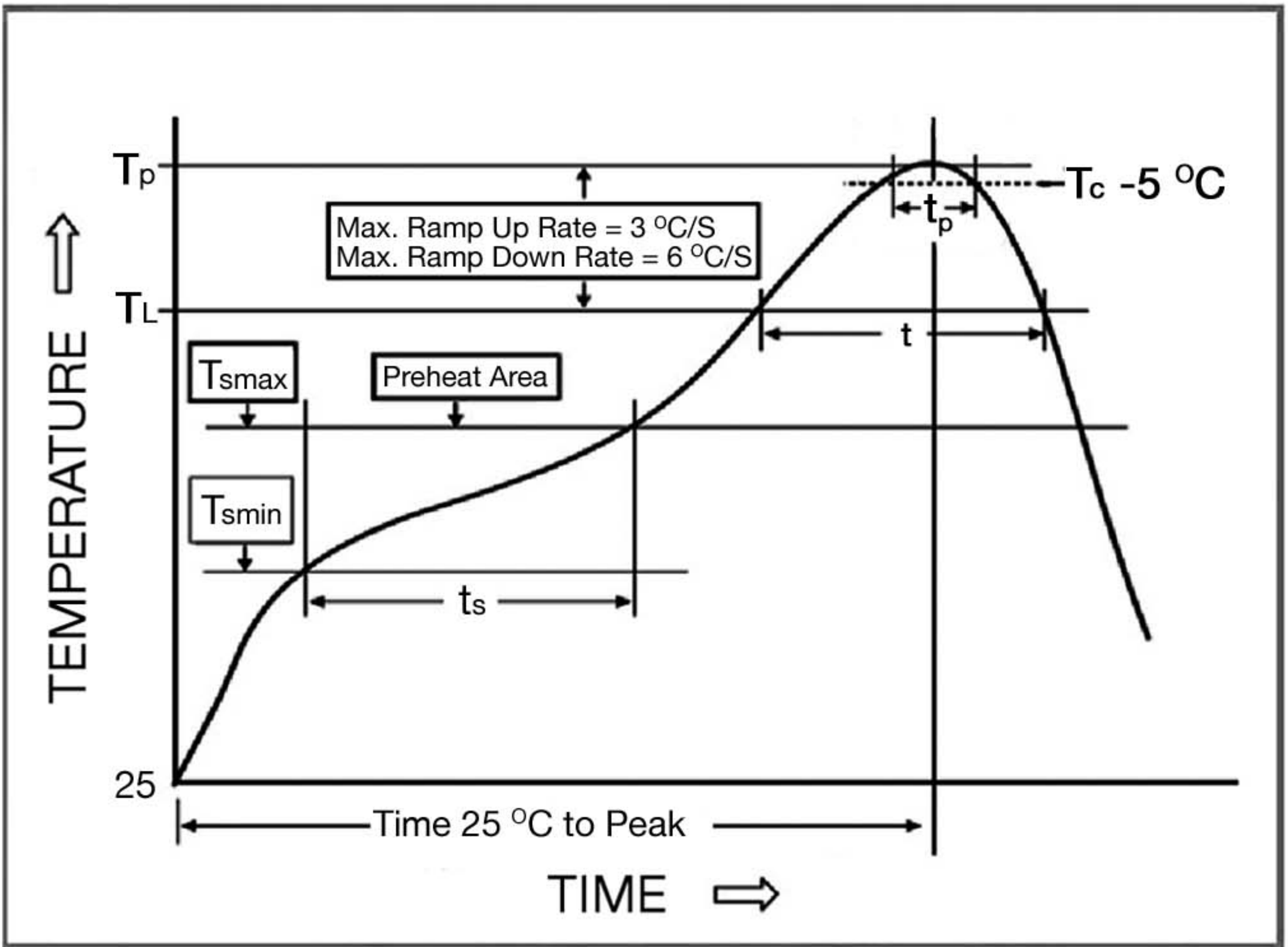
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Environmental Specifications

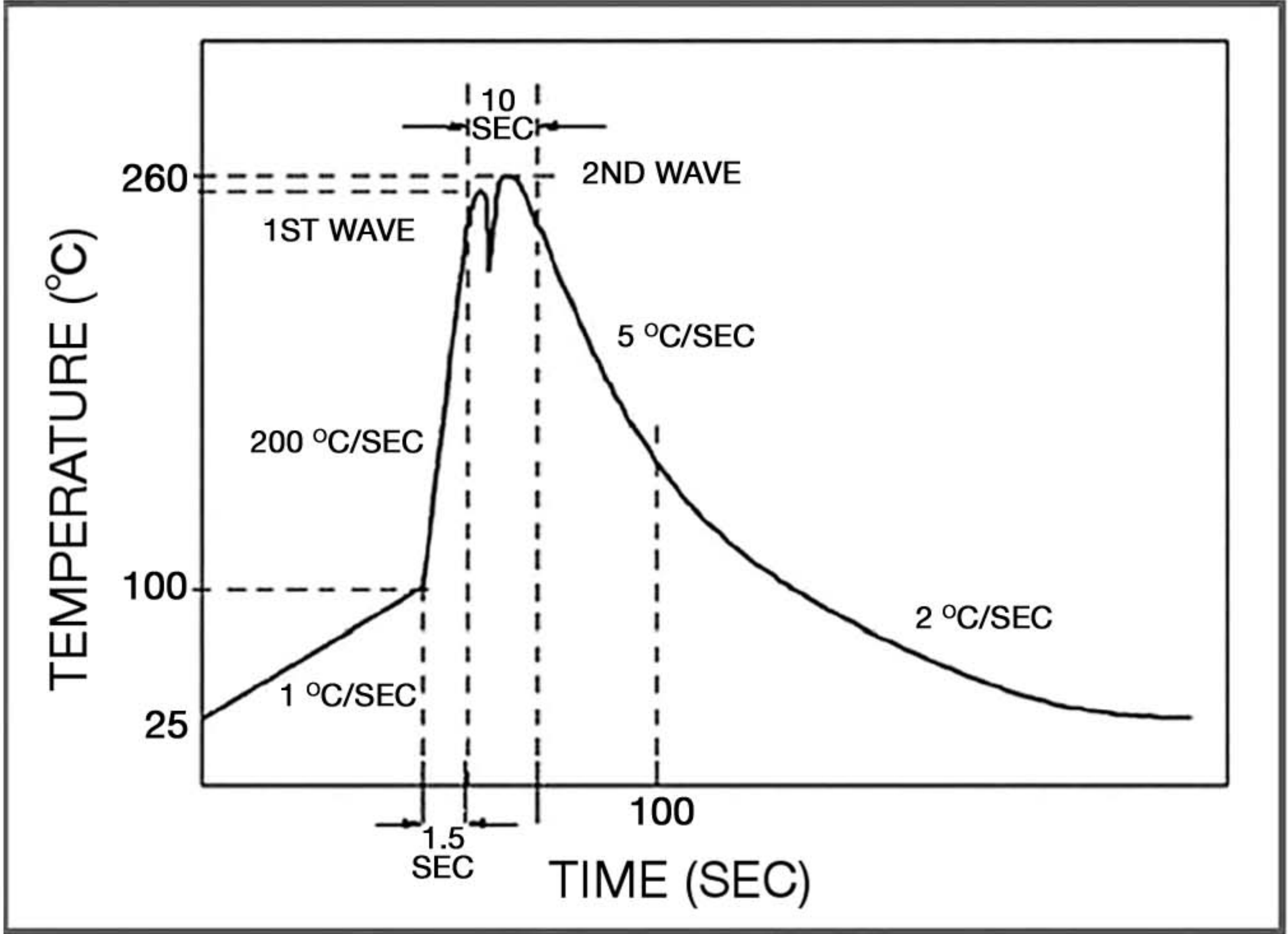
Shock Resistance	MIL-STD-202G, Method 213B, Test Condition 1 (100 G's peak for 6 milliseconds; Sawtooth waveform)
Vibration Resistance	MIL-STD-202G, Method 201A(10-55 Hz,0.06 inch, total excursion).
Salt Spray Resistance	MIL-STD-202G, Method 101E, Test Condition B(48 hrs).
Insulation Resistance	MIL-STD-202G, Method 302, Test Condition A (After Opening) 10,000 ohms minimum.
Solderability	MIL-STD-202G, Method 208H
Resistance to solder Heat	MIL-STD-202G, Method 210F, Test Condition C. Top Side(260 °C, 20 sec) MIL-STD-202G, Method 210F, Test Condition D.Bottom Side(260 °C,10 sec)
Thermal Shock	MIL-STD-202G, Method 107G, Test Condition B (-65 °C to +125 °C).
Operating Temperature	-55 °C to +125 °C
Moisture Sensitivity Level	1 (According to IPC J-Std-020)

Soldering Parameters

IR Reflow Profile (IPC/JEDEC J-STD-020D)	
Preheat & Soak	
Temperature min (T _{min})	150 °C
Temperature max (T _{max})	200 °C
Time (T _{min} to T _{max}) (t _s)	60 -120 seconds
Average ramp-up rate (T _{max} to T _p)	3 °C/second max.
Liquidous temperature (T _L)	217 °C
Time at liquidous (t _l)	60 - 150 seconds
Peak temperature (T _p)	260 °C max
Time (t _p) within 5 °C of the specified classification temperature (T _c)	30 seconds
Average ramp-down rate (T _p to T _{max})	6 °C/second max.
Time 25 °C to peak temperature	8 minutes max.



Lead-free Wave Soldering Profile	
Wave Soldering Parameter	
Average ramp-up rate	200 °C / second
Heating rate during preheat	typical 1 - 2 °C / second Max 4 °C / second
Final preheat temperature	within 125 °C of soldering temperature
Peak temperature Tp	260 °C
Time within +0 °C / -5 °C of actual peak temperature	10 seconds
Ramp-down rate	5 °C / second max.



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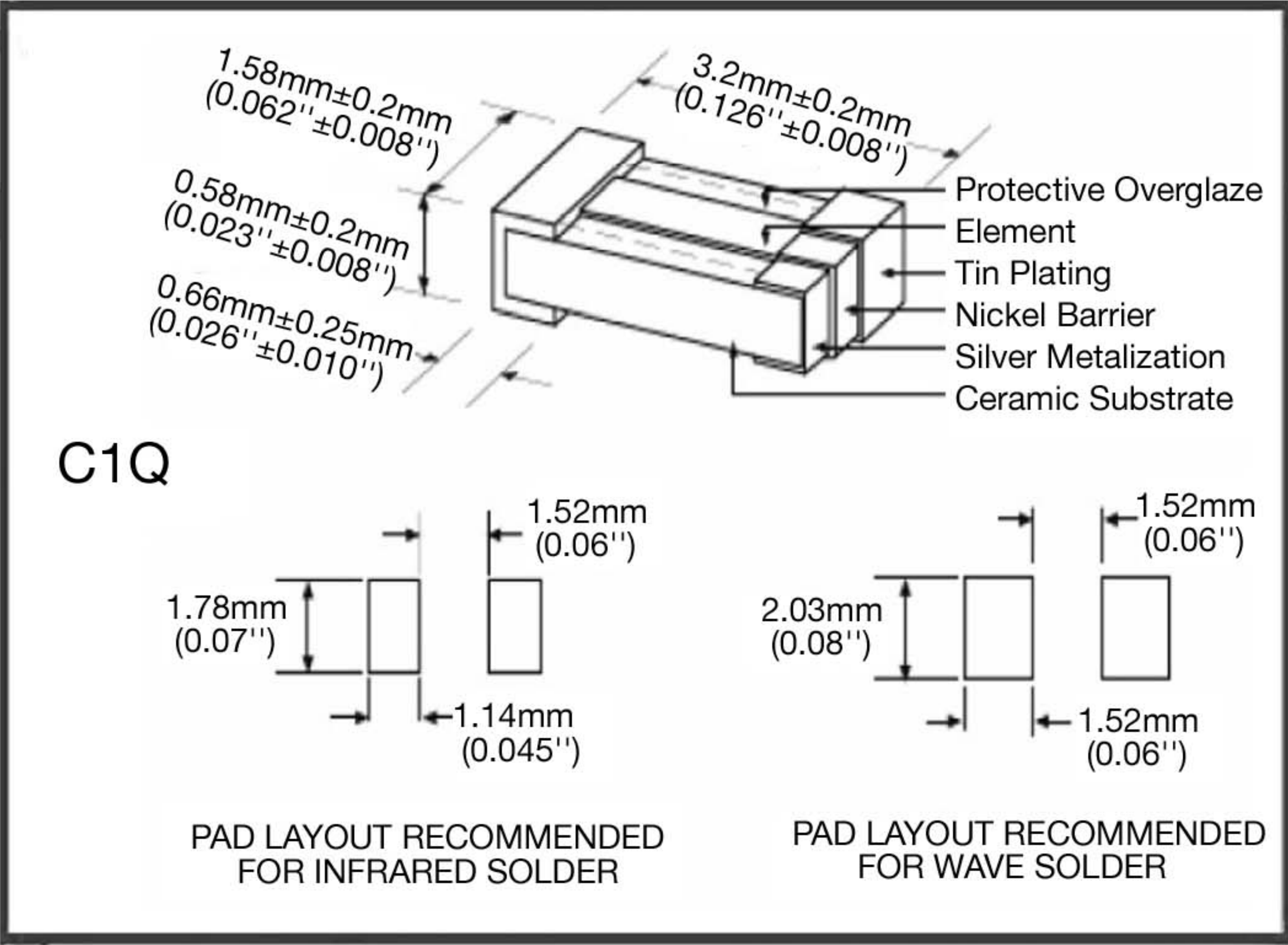
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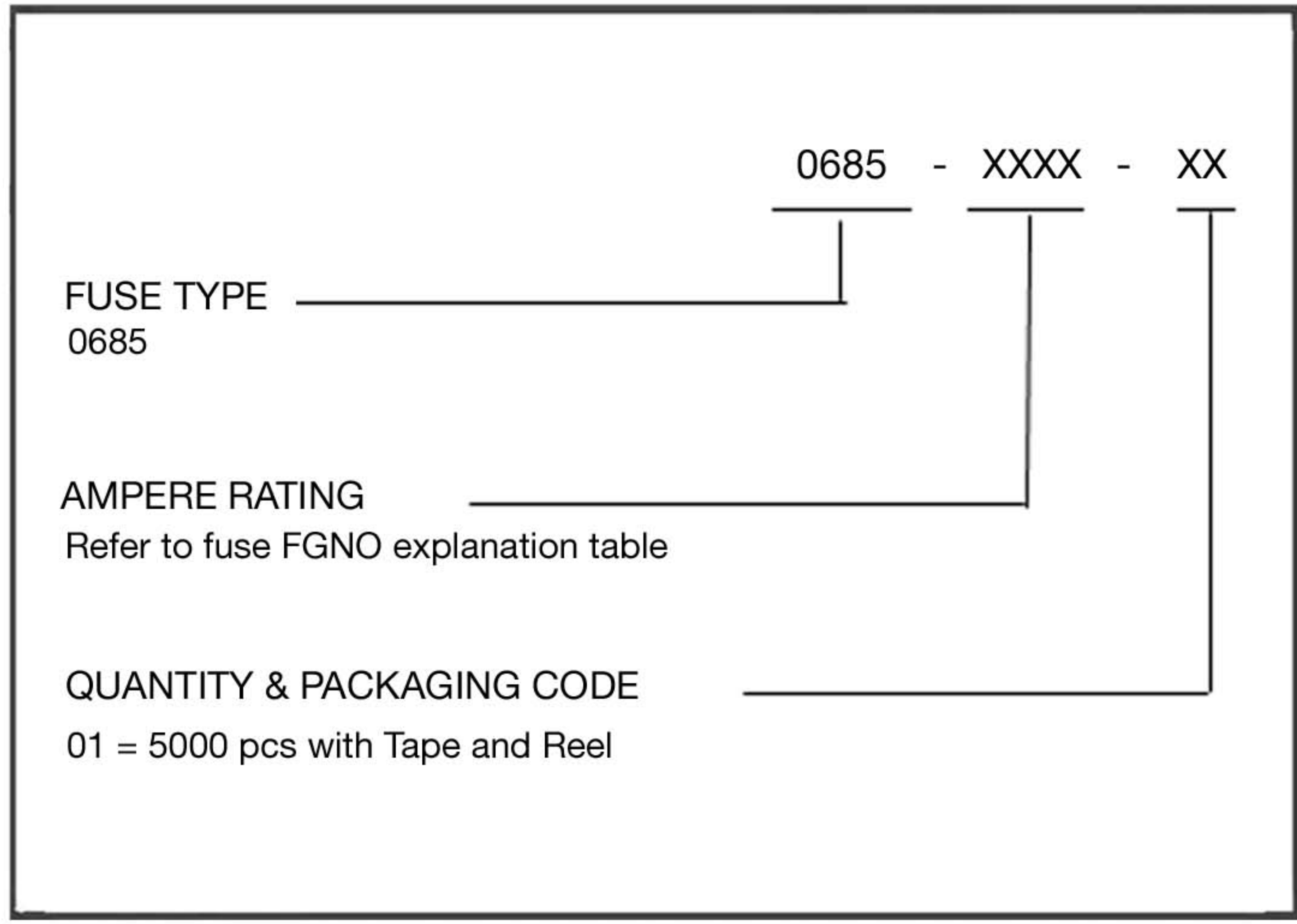
Fuse FGNO Explanation 06XX X [XXXX] X XX, [XXXX]=Ampere Rating

Fraction	Decimal	Milliamps	Bel FGNO[XXXX]	Fraction	Decimal	Amps	Bel FGNO[XXXX]
1/32	0.032	32	0032	1.0	1.0	1	1000
1/25	.040	40	0040	1-1/4	1.25	1.25	1250
1/20	.050	50	0050	1-1/2	1.50	1.5	1500
1/16	.063	63	0063		1.60	1.6	1600
8/100	.080	80	0080		2.0	2	2000
1/10	.100	100	0100	2-1/4	2.25	2.25	2250
1/8	.125	125	0125	2-1/2	2.5	2.5	2500
15/100	.150	150	0150		3.0	3	3000
	.160	160	0160		3.15	3.15	3150
2/10	.200	200	0200	3-1/2	3.5	3.5	3500
1/4	.250	250	0250		4.0	4	4000
3/10	.300	300	0300		5.0	5	5000
	.315	315	0315		6.0	6	6000
3/8	.375	375	0375		6.3	6.3	6300
4/10	.400	400	0400		7.0	7	7000
1/2	.500	500	0500	7-1/2	7.5	7.5	7500
6/10	.600	600	0600		8.0	8	8000
	.630	630	0630			10	9100
7/10	.700	700	0700			12	9120
3/4	.750	750	0750			15	9150
8/10	.800	800	0800			20	9200
						25	9250
						30	9300

Mechanical Dimensions



Ordering Information



Packaging

Packaging Tape & Reel	Packaging Specification	Quantity	Quantity & Packaging Code
8 mm wide tape with 7 inches Diameter reel	EIA Standard 481-E	5000	0685-XXXX-01

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