

Type 0659C / 0659P

Time - lag Fuse Series (High-Breaking Capacity)

HF  0659C/0659P Series, 5x20mm Ceramic Tube Time - Lag Fuse

RoHS 6 Compliant

Description

5x20mm Time-Lag surge withstand, high breaking capacity, ceramic body cartridge fuse designed, approved and complied with IEC 60127-2, standard sheet 5.

Features

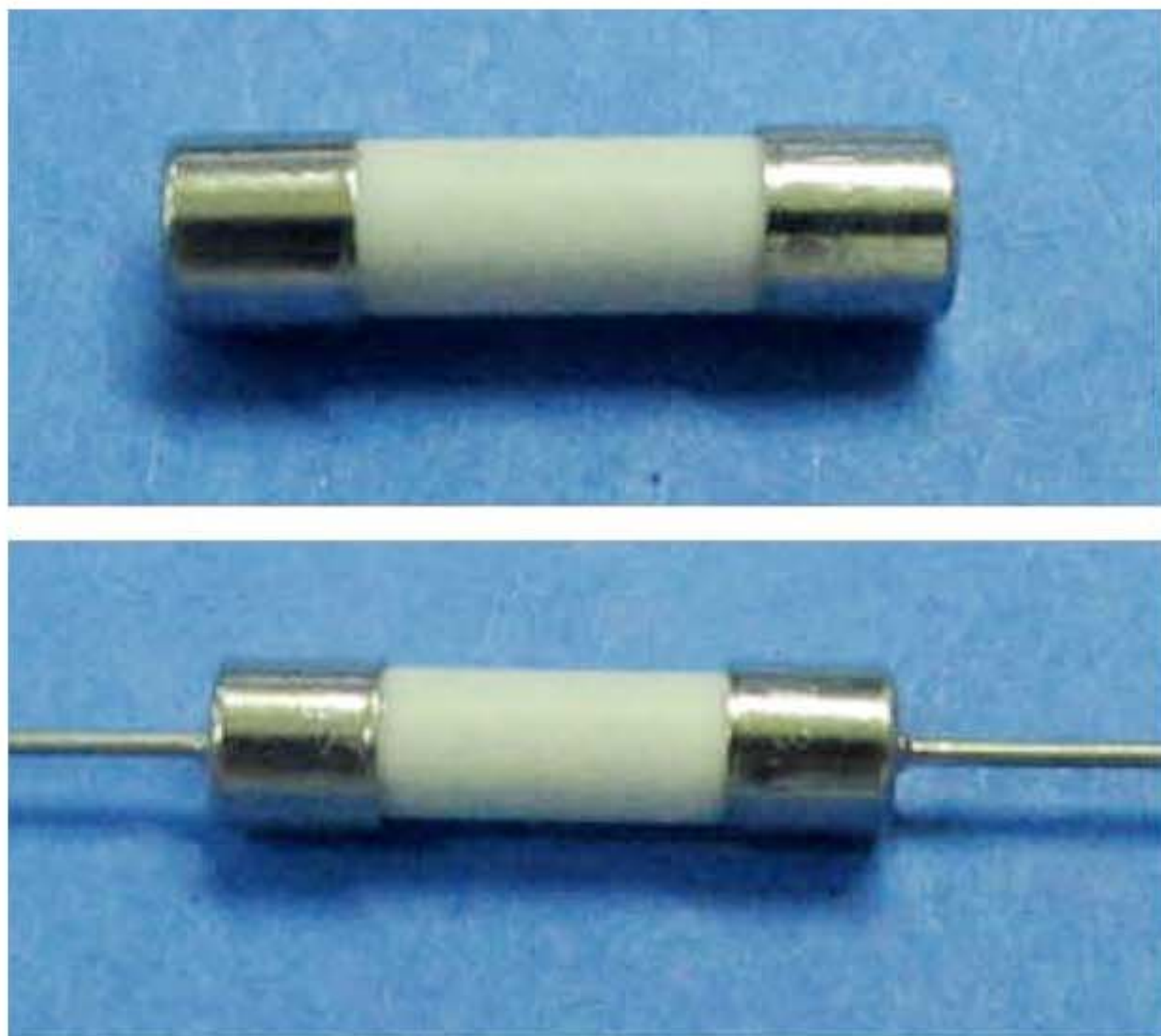
- High breaking capacity (250V ac @ 1500A)
- Meet IEC standard 60127-2, sheet 5
- Wide operating temperature range
- Bulk and Tape & Reel packing available
- RoHS 6 compliant
- Halogen Free
- Leadfree

Applications



Provide individual protection for components or internal circuits.

- Power supplies
- Battery charger
- Monitor
- Adapter

LEAD FREE = 
HALOGEN FREE = 



Physical Specifications

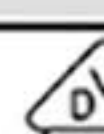




Materials	Body : Ceramic
	Cap : Nickel Plated Brass Caps
	Leads : Matte Tin Plated Copper
Marking	On Fuse :
	"bel", "T", "Current Rating", "H", "250V",
	"Appropriate Safety Logos"
	On Label :
	"bel", "0659C" or "0659P", "Current Rating", "Voltage Rating", "Interrupting Rating", " Appropriate Safety Logos" and  ,  (China RoHS compliant).

Electrical Characteristics (IEC-127-2 STANDARD SHEET 5)

Rated Current	1.5 In		2.1 In		2.75 In		4 In		10 In	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
1A to 3.15A	1	30	0.75	80	95	5	10	150		
4A and above	1	30	0.75	80	150	5	10	150		
	hr.	min.	sec	sec	ms	sec	ms	ms		

In clause 9.2, the test voltage is 125VDC.

Safety Agency Approvals

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE NUMBER	VOLTAGE RATING (V)	AMPERE RANGE / VOLT @ I.R. ABILITY*
	40039275	0659C 1A - 6.3A / 250V AC 0659P 1A - 6.3A / 250V AC	1A - 6.3A / 250V AC @ 1,500A
	PSE14020742 PSE14020744 PSE14020747 PSE14020743		0659C 1A - 5A / 250V AC @ 1,500A 0659C 6.3A / 250V AC @ 1,500A 0659P 1A - 5A / 250V AC @ 1,500A 0659P 6.3A / 250V AC @ 1,500A
	2014010207673750		0659C 1A - 6.3A / 250V AC @ 1,500A
	CQC14012105368		0659P 1A - 6.3A / 250V AC @ 1,500A
	E20624		1A - 6.3A / 250V AC @ 1,500A 1A - 6.3A / 600V AC @ 150A

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

Specifications subject to change without notice



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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 B (After Opening) 100, 000 ohms minimum.
Solderability	MIL-STD-202G, Method 208H
Resistance to solder Heat	MIL-STD-202G, Method 210F, Test Condition B.(260+/-5 °C, 10+/-1 sec)
Thermal Shock	MIL-STD-202G, Method 107G, Test Condition B (-65 °C to +125 °C).
Operating Temperature	-55 °C to +125 °C
Terminal Strength	IEC-68-2-21

Electrical Specifications

Part Number	Ampere Rating	Typical Cold Resistance (ohm)	Volt-drop @100% In (Volt) max.	Voltage and Interrupting Ratings	Melting I ² T <10 mSec (A ² Sec)	Melting I ² T @10 In (A ² Sec)	Maximum Power Dissipation (W)	Agency Approvals				
												
0659C1000-XX	1A	0.134	0.191	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	2.3	2.4	0.45	Y	Y	Y	Y	
0659P1000-XX												Y
0659C1250-XX	1.25A	0.103	0.187		3.2	3.3	0.56	Y	Y	Y	Y	
0659P1250-XX												Y
0659C1600-XX	1.6A	0.076	0.178		5.6	5.4	0.60	Y	Y	Y	Y	
0659P1600-XX												Y
0659C2000-XX	2A	0.049	0.141		14.4	14.0	0.70	Y	Y	Y	Y	
0659P2000-XX												Y
0659C2500-XX	2.5A	0.036	0.133		28.1	25.0	0.87	Y	Y	Y	Y	
0659P2500-XX												Y
0659C3150-XX	3.15A	0.024	0.110		25.0	24.8	0.86	Y	Y	Y	Y	
0659P3150-XX												Y
0659C4000-XX	4A	0.016	0.095		56.3	51.2	0.89	Y	Y	Y	Y	
0659P4000-XX												Y
0659C5000-XX	5A	0.013	0.090		88.2	92.5	1.14	Y	Y	Y	Y	
0659P5000-XX												Y
0659C6300-XX	6.3A	0.009	0.086	139.2	142.9	1.39	Y	Y	Y	Y		
0659P6300-XX											Y	

Consult manufacturer for other ratings

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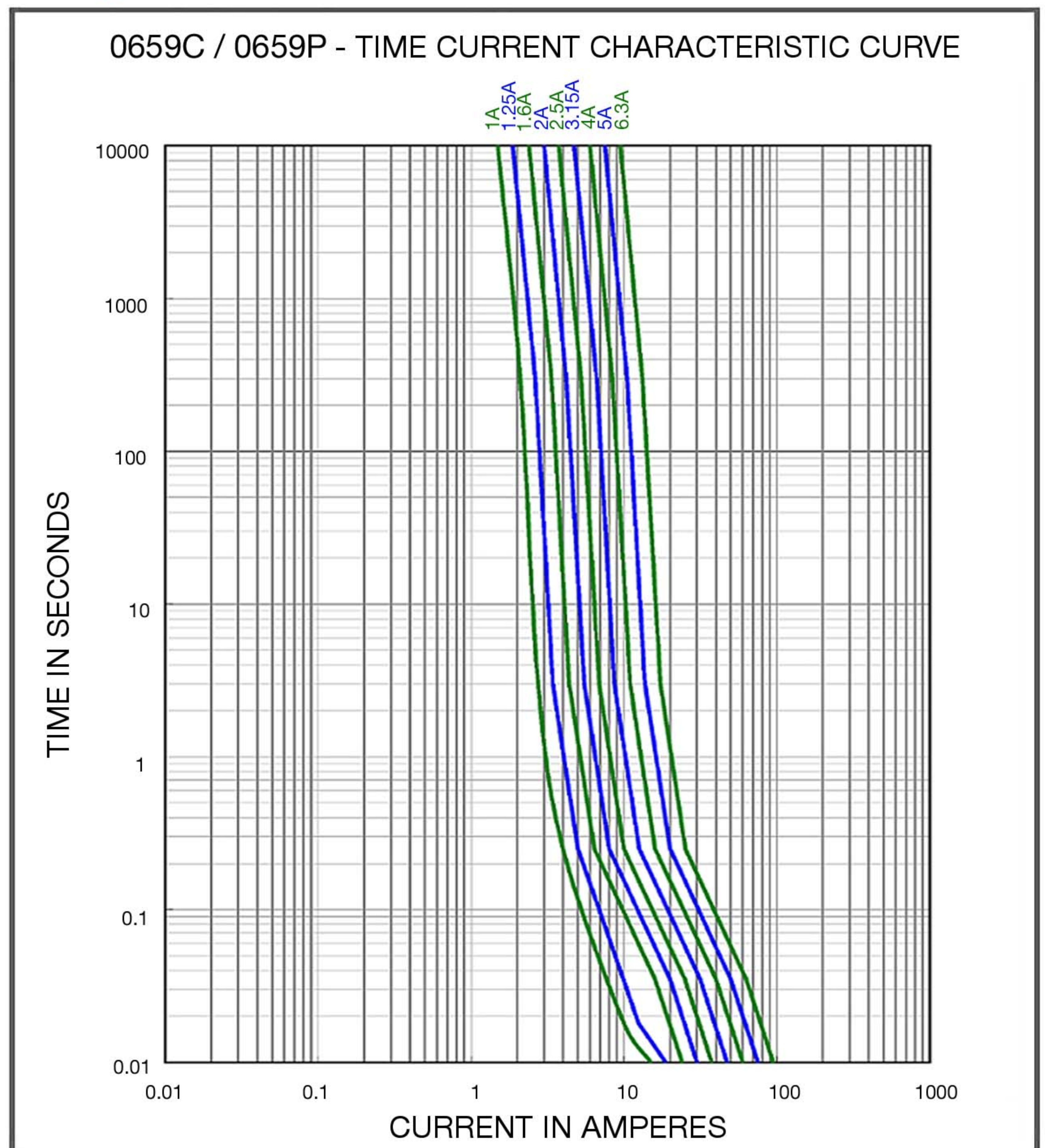
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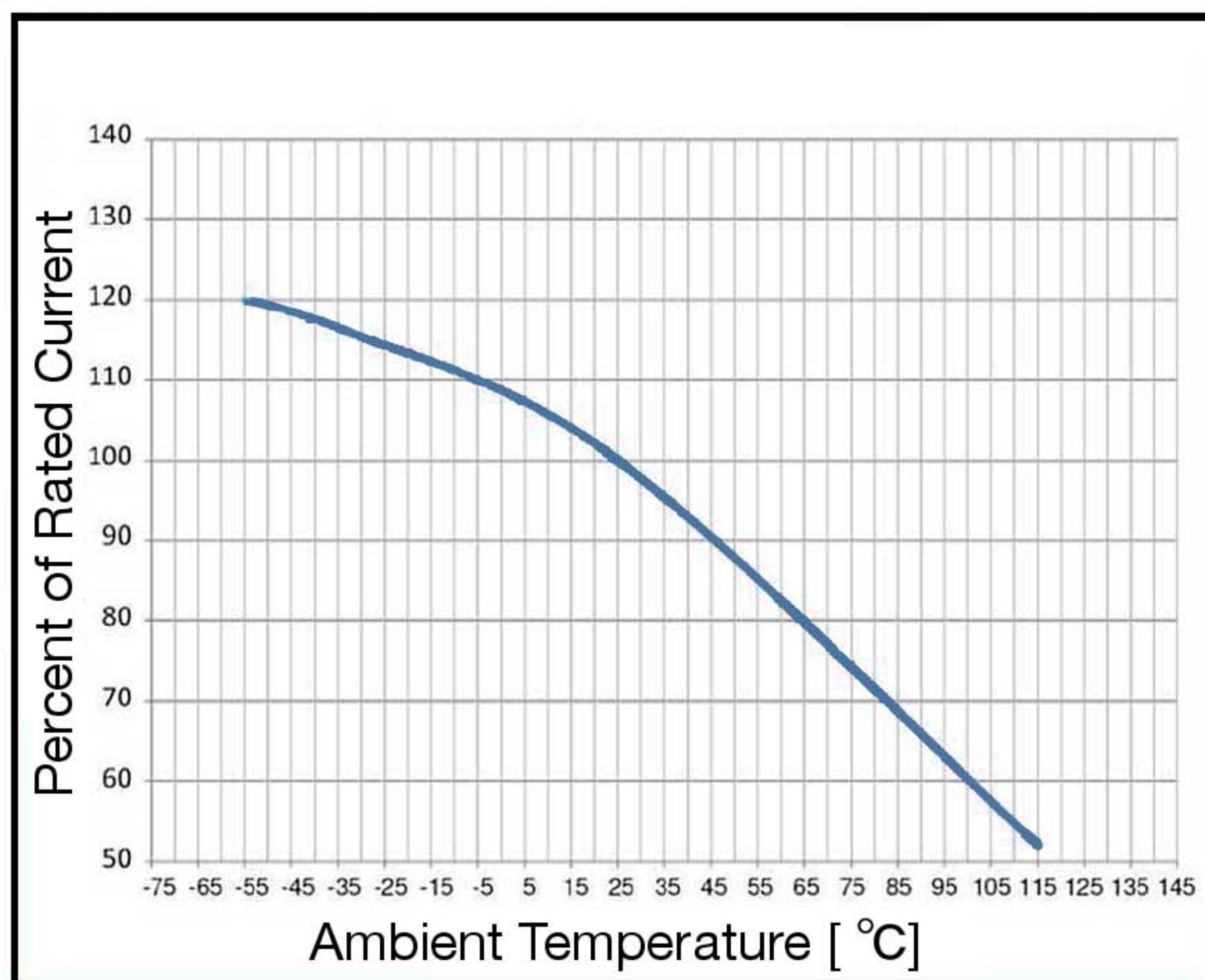
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Average Time Current Curve

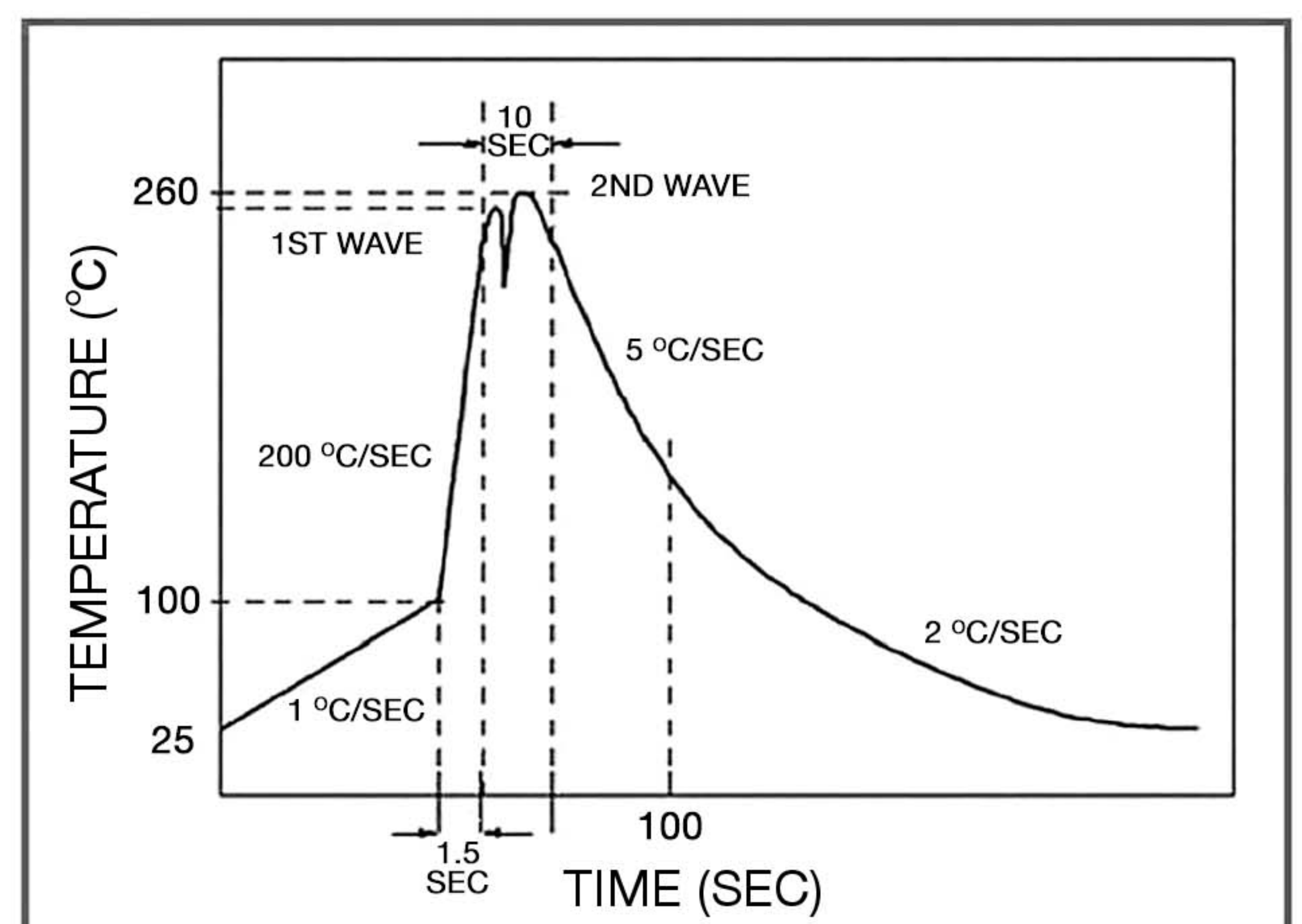


Temperature Derating Curve



Soldering Parameters

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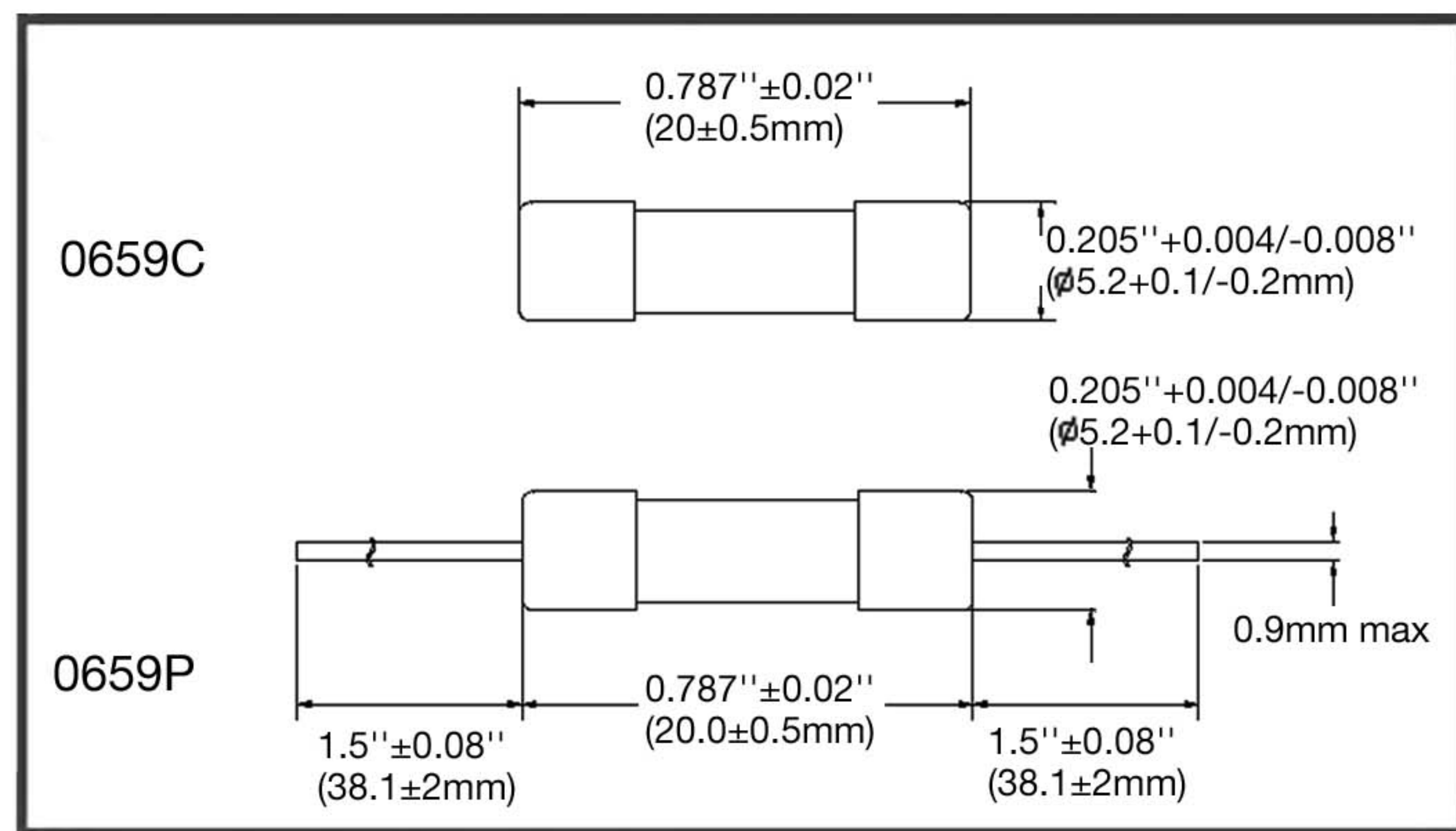
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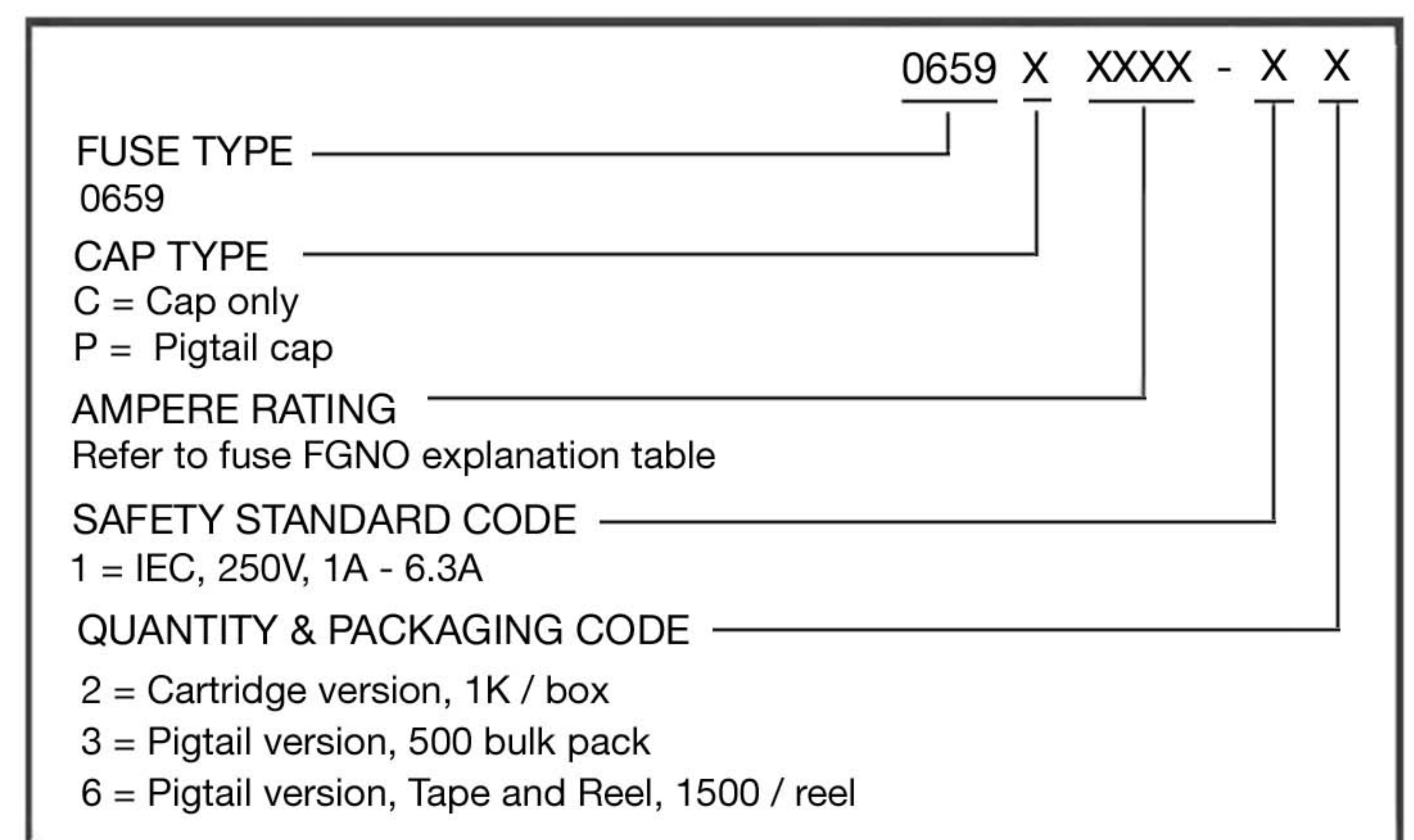
Fuse FGNO Explanation 06XX X [XXXX] X XX, [XXXX]=Ampere Rating

Fraction	Decimal	Milliamps	Bel FGNO[XXXX]	Fraction	Decimal	Amps	Bel FGNO[XXXX]
1/32	0.032	32	0032		1.0	1	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 Option	Packaging Specification	Quantity	Packaging Code	Inside Tape Spacing
Bulk	N/A	1000	12	N/A
Bulk (Pigtail Type)	N/A	500	13	N/A
Tape & Reel, 10 mm Pitch	EIA-296-F	1500	16	63

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