

Type 3AG/3AP

Fast Blow Fuse Series

HF  3AG/3AP Series, 6x32mm Glass Tube Fast Blow Fuse

RoHS 6 Compliant

Description

6x32mm Fast Blow, glass tube body cartridge fuse designed, approved and complied with UL and CSA standard 248-14.

Features

- Meet UL and CSA standard 248-14
- Wide operating temperature range
- Bulk and Tape & Reel packing available
- RoHS 6 compliant
- Halogen Free
- Leadfree

Applications

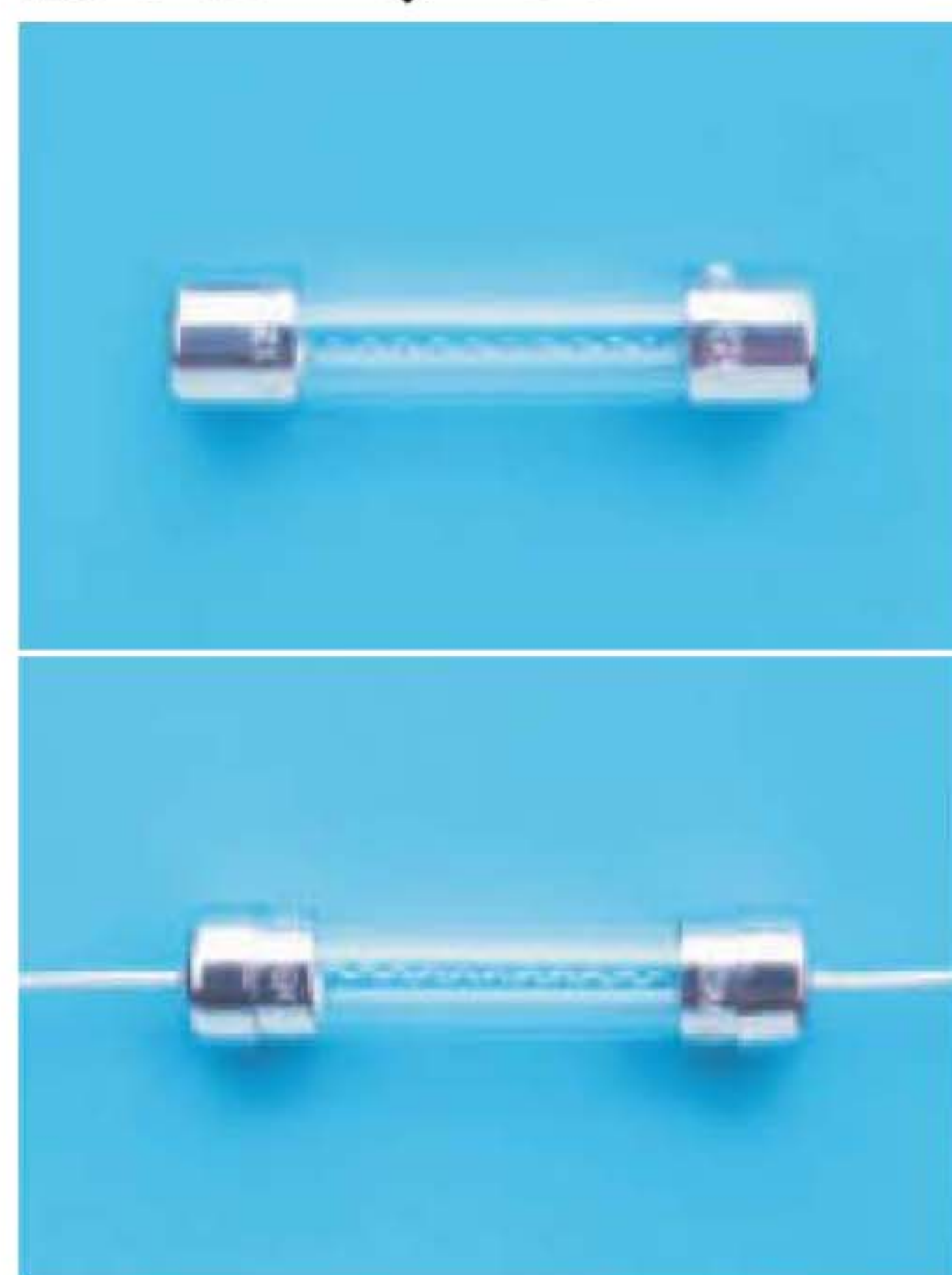
Provide individual protection for components or internal circuits.

- Power supplies
- Battery charger
- Monitor
- Adapter

LEAD FREE = 
HALOGEN FREE = 

Physical Specifications

Materials	Body : Glass
	Cap : Nickel Plated Brass Caps
	Leads : Matte Tin Plated Copper
Marking	On Fuse :
	"bel", "3AG", "Current Rating", "Voltage Rating",
	"Appropriate Safety Logos", "  "(RoHS 6 compliant)
	On Label :
	"bel", "3AG" or "3AP", "Current Rating", "Voltage Rating", "Interrupting Rating", " Appropriate Safety Logos" and "  ", "  " (China RoHS compliant).



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

Testing Current	Blow Time	
	Minimum	Maximum
100%	4 hrs.	N/A
135%	N/A	1 Hr
200%	N/A	5 sec

Safety Agency Approvals

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE NUMBER	VOLTAGE RATING (V)	AMPERE RANGE / VOLT @ I.R. ABILITY*
	E20624	100mA-10A / 250V AC 12A-15A / 125V AC	100mA-10A / 250V AC@ 200A
	LR39772		100mA-15A / 125V AC@ 10,000A
	JET1037-31003-1010 JET1037-31003-1011		1A-5A / 125V AC @ 500A
	JET1037-31003-1007		>5A-15A / 125V AC@ 300A

* 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 A (After Opening) 10, 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

Catalog 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		
										
3AG (3AP) 100-R	100mA	11.3	4.62	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	0.002	0.002	0.59	Y	Y	
3AG (3AP) 125-R	125mA	10.5	5.18		0.004	0.003	0.80	Y	Y	
3AG (3AP) 160-R	160mA	7.3	4.85		0.008	0.006	0.94	Y	Y	
3AG (3AP) 200-R	200mA	5.0	4.38		0.014	0.010	1.10	Y	Y	
3AG (3AP) 250-R	250mA	3.4	4.05		0.025	0.019	1.29	Y	Y	
3AG (3AP) 300-R	300mA	2.5	3.54		0.044	0.034	1.51	Y	Y	
3AG (3AP) 375-R	375mA	1.86	3.35		0.071	0.055	1.64	Y	Y	
3AG (3AP) 400-R	400mA	1.32	3.22		0.08	0.08	1.71	Y	Y	
3AG (3AP) 500-R	500mA	1.19	3.17		0.14	0.11	1.88	Y	Y	
3AG (3AP) 750-R	750mA	0.66	2.54		0.19	0.17	2.15	Y	Y	
3AG (3AP) 1-R	1A	0.155	0.28		1.4	1.4	0.37	Y	Y	Y
3AG (3AP) 1.25-R	1.25A	0.114	0.27		2.4	2.5	0.44	Y	Y	Y
3AG (3AP) 1.6-R	1.6A	0.085	0.27		4.2	4.4	0.51	Y	Y	Y
3AG (3AP) 2-R	2A	0.057	0.22		7.2	7.6	0.59	Y	Y	Y
3AG (3AP) 2.5-R	2.5A	0.043	0.21		12	13	0.70	Y	Y	Y
3AG (3AP) 3-R	3A	0.033	0.17		21	23	0.83	Y	Y	Y
3AG (3AP) 3.5-R	3.5A	0.027	0.18		28	31	0.91	Y	Y	Y
3AG (3AP) 4-R	4A	0.024	0.17		36	40	1.00	Y	Y	Y
3AG (3AP) 5-R	5A	0.018	0.16		63	70	1.20	Y	Y	Y
3AG (3AP) 6-R	6A	0.014	0.15		107	123	1.40	Y	Y	Y
3AG (3AP) 7-R	7A	0.012	0.16		141	162	1.60	Y	Y	Y
3AG (3AP) 8-R	8A	0.010	0.15		184	214	1.70	Y	Y	Y
3AG (3AP) 10-R	10A	0.008	0.13		316	372	2.00	Y	Y	Y
3AG (3AP) 12-R	12A	0.006	0.13		501	597	2.40	Y	Y	Y
3AG (3AP) 15-R	15A	0.006	0.15		845	1023	2.80	Y	Y	Y

Consult manufacturer for other ratings

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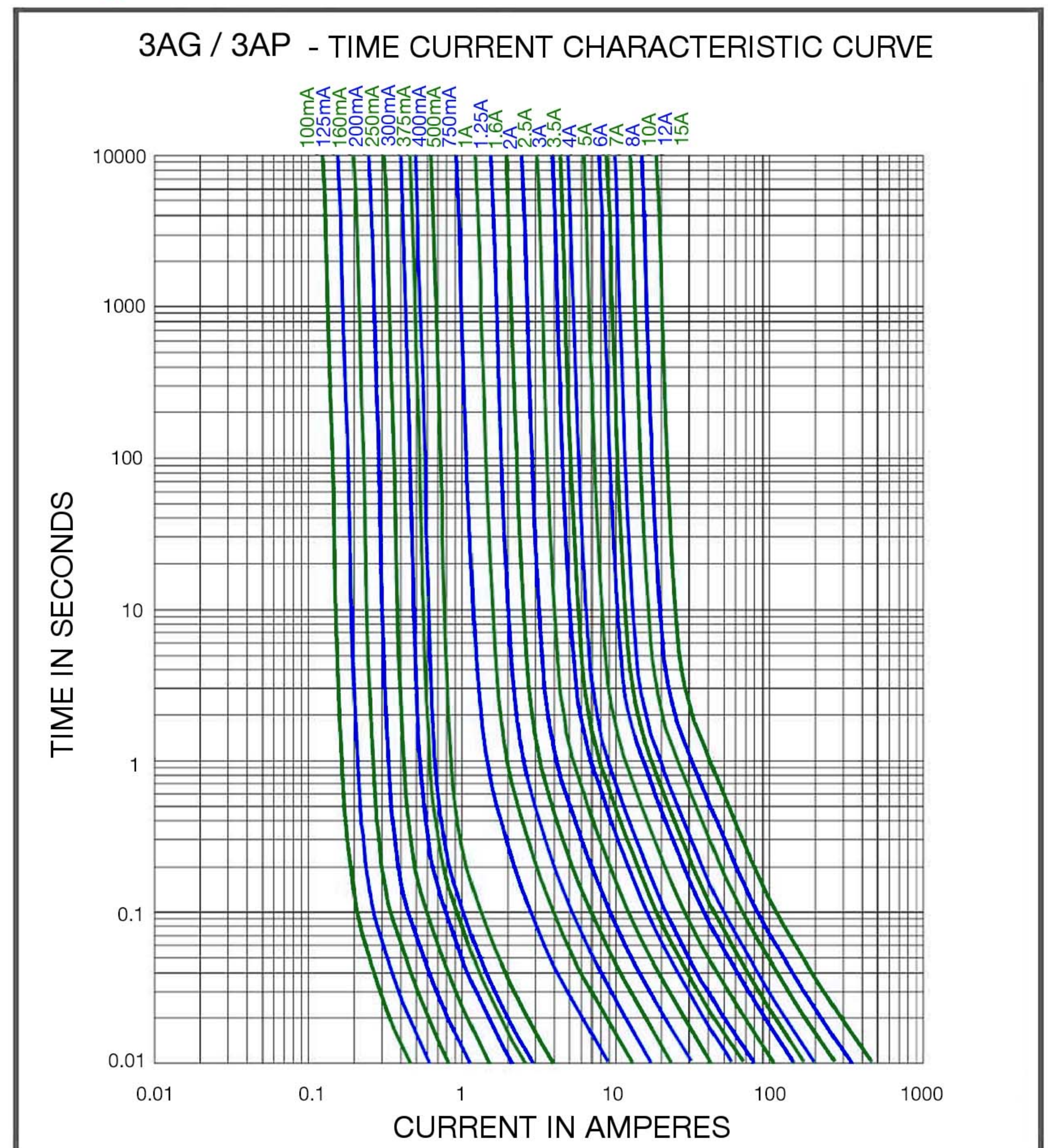
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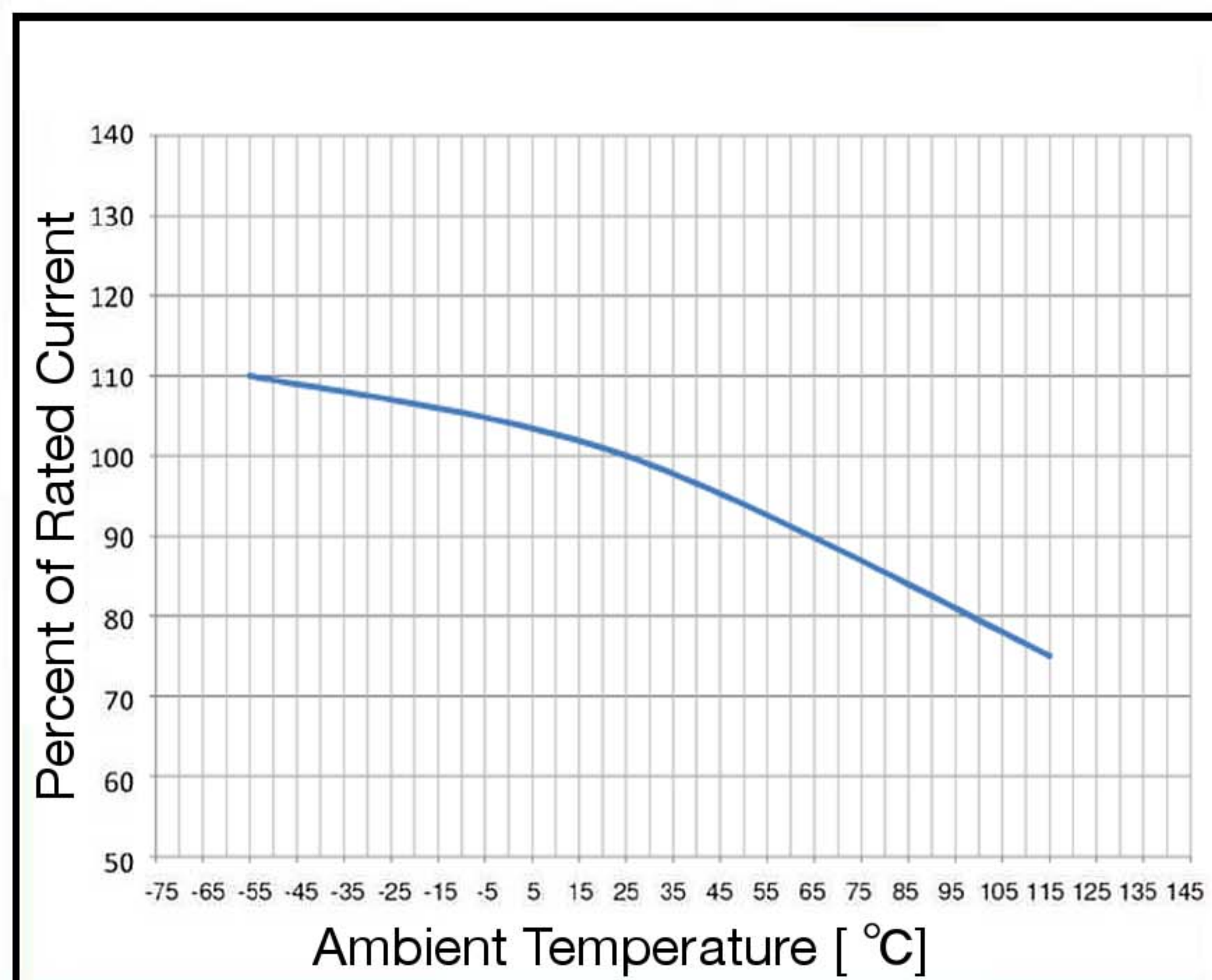
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Average Time Current Curve

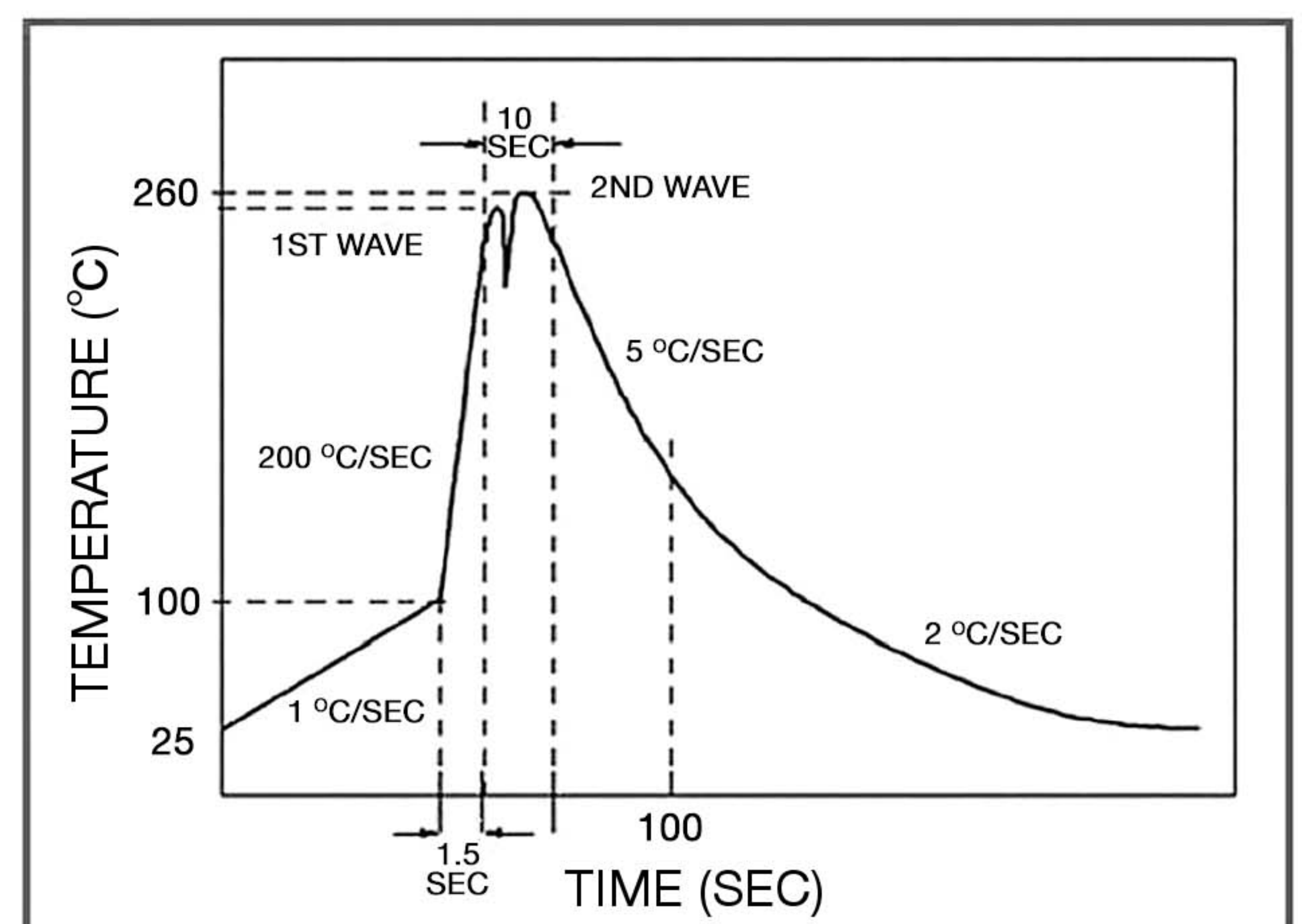


Temperature Derating Curve



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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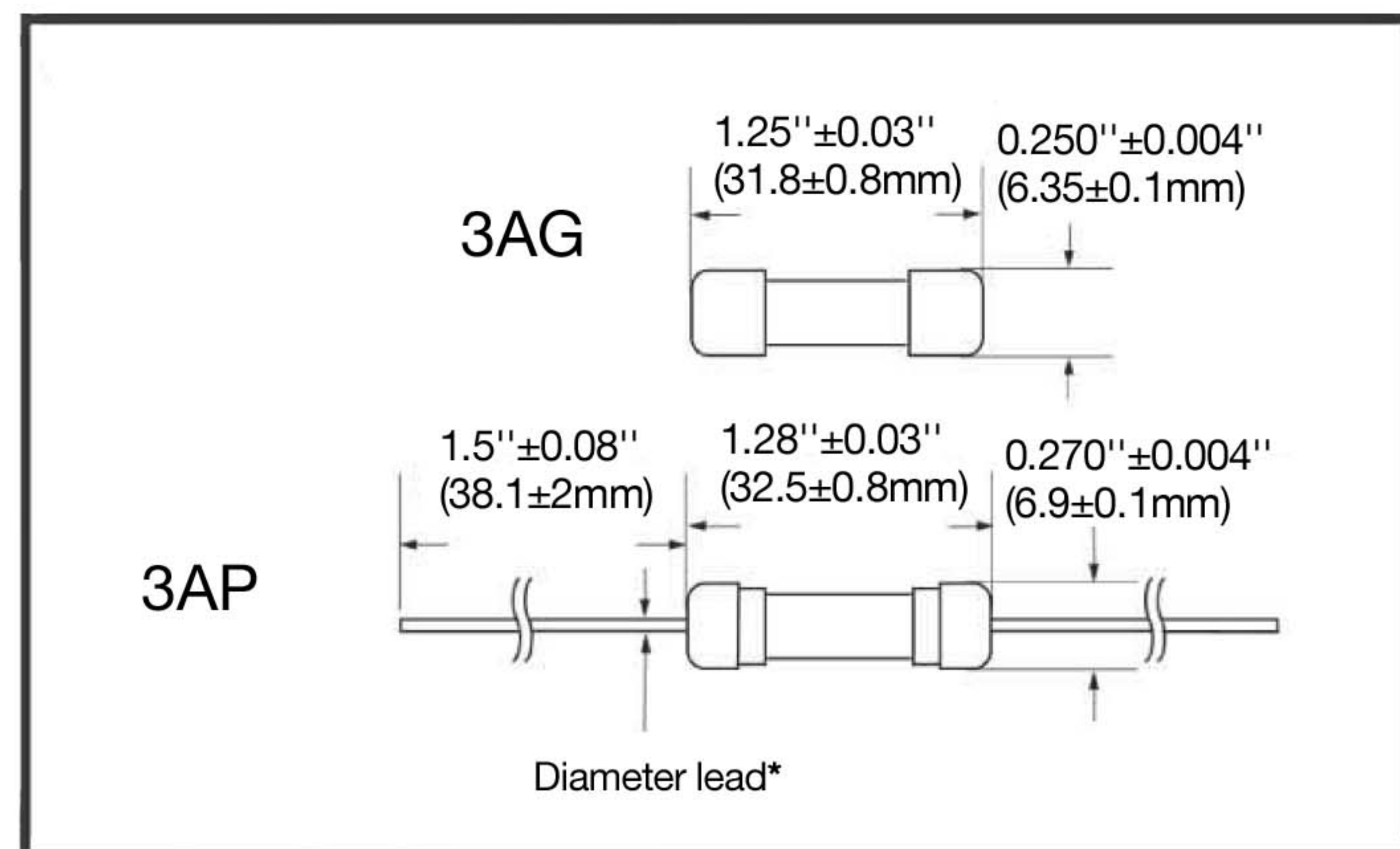
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Fuse FGNO Explanation

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	1.0	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



*Ratings 7A and less have 0.032" diameter lead;
Ratings 8A and above have 0.040" diameter lead.

Ordering Information

	06XX	R	XXXX	-	X	X
FUSE TYPE						
0601 = 3AG						
0611 = 3AP						
R = RoHS Compliant						
AMPERE RATING						
Refer to fuse FGNO explanation table						
PACKAGING CODE						
3 = 3AG, Cartridge, 1K / Box						
3 = 3AP, Pigtail, Bulk, 1K / Box						
7 = 3AP, Pigtail, T&R, 1K/Reel						
VOLTAGE CODE						
2 = 125V, for 12A-15A						
3 = 250V, for 100mA-10A						

Packaging

Packaging Option	Packaging Specification	Quantity	Packaging Code	Inside Tape Spacing
Bulk	N/A	1000	33 / 32	N/A
Bulk (Pigtail Type)	N/A	1000	33 / 32	N/A
Tape & Reel, 10mm Pitch	EIA-296-F	1000	73 / 72	73

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