

Description

6x32mm Slow Blow, ceramic 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
- RoHS6 compliant
- Halogen Free
- Leadfree

Applications

Provide individual protection for components or internal circuits.

- Power Supplies
- Battery charger
- Monitor
- Adapter

LEAD FREE =

HALOGEN FREE =

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

Testing current	Blow Time	
	Minimum	Maximum
100%	4 Hrs.	N/A
135%	N/A	1 Hr
200%	5 sec	30 sec

Safety Agency Approvals

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE NUMBER	AMPERE RANGE / VOLT @ I.R.ABILITY
	E20624 LR39772	63mA -8A / 125V AC @10,000A 63mA - 1A / 250V AC @35A >1A - 3.5A / 250V AC @100A >3.5A - 8A / 250V AC @200A
		10A -15A / 125V AC @10,000A 10A - 15A / 250V AC @750A
	JET 1037-31003-1010 JET 1037-31003-1011	1A - 5A / 125V AC @500A
	JET 1037-31003-1007	>5A - 15A / 125V AC @300A
		63mA -15A / 125V AC @10,000A 63mA - 1A / 250V AC @35A >1A - 3.5A / 250V AC @100A >3.5A - 8A / 250V AC @200A 10A - 15A / 250V AC @750A

Specifications subject to change without notice

Type GSA / GSAP

Slow Blow Fuse Series

6 x 32 mm Ceramic Tube
RoHS 6 Compliant



GSA May2012D

Electrical Specifications

Catalog Number	Ampere Rating	Typical Cold Resistance (ohm)	Volt-drop @ 100% In (Volt) Max.	Voltage Rating (V)	Interrupting Rating	Melting I2T <10 m Sec (A2 Sec)	Melting I2T @ 10 In (A2 Sec)	Maximum Power Dissipation (W)	Agency Approvals					
									UL US	SP	RA US	SP	PS E	CE
GSA(P) 63-R	63mA	75.5	7.33	250	63mA - 15A / 125V AC @10,000A 63mA - 1A / 250V AC @35A >1A - 3.5A / 250V AC @100A >3.5A - 8A / 250V AC @200A 10A - 15A / 250V AC @750A	0.087	0.098	0.71	Y	Y				Y
GSA(P) 80-R	80mA	48.4	6.27	250		0.135	0.152	0.74	Y	Y				Y
GSA(P) 100-R	100mA	29.4	4.41	250		0.209	0.238	0.55	Y	Y				Y
GSA(P) 125-R	125mA	17.5	3.45	250		0.323	0.372	0.58	Y	Y				Y
GSA(P) 160-R	160mA	12.3	3.13	250		0.499	0.581	0.60	Y	Y				Y
GSA(P) 200-R	200mA	7.1	2.13	250		0.773	0.908	0.63	Y	Y				Y
GSA(P) 250-R	250mA	5.0	1.97	250		1.2	1.4	0.66	Y	Y				Y
GSA(P) 300-R	300mA	3.17	1.52	250		1.9	2.2	0.70	Y	Y				Y
GSA(P) 375-R	375mA	2.14	1.26	250		2.6	3.2	0.73	Y	Y				Y
GSA(P) 500-R	500mA	1.38	1.07	250		4.4	5.4	0.78	Y	Y				Y
GSA(P) 600-R	600mA	1.05	0.98	250		6.9	8.5	0.82	Y	Y				Y
GSA(P) 700-R	700mA	0.648	0.69	250		8.5	11	0.84	Y	Y				Y
GSA(P) 750-R	750mA	0.642	0.68	250		10	12	0.85	Y	Y				Y
GSA(P) 1-R	1A	0.374	0.59	250		16	21	0.91	Y	Y			Y	Y
GSA(P) 1.25-R	1.25A	0.248	0.43	250		25	32	0.96	Y	Y			Y	Y
GSA(P) 1.6-R	1.6A	0.155	0.38	250		39	50	1.01	Y	Y			Y	Y
GSA(P) 2-R	2A	0.115	0.36	250		61	79	1.06	Y	Y			Y	Y
GSA(P) 2.5-R	2.5A	0.079	0.29	250		94	123	1.12	Y	Y			Y	Y
GSA(P) 3-R	3A	0.058	0.27	250		146	192	1.18	Y	Y			Y	Y
GSA(P) 4-R	4A	0.039	0.23	250		226	300	1.24	Y	Y			Y	Y
GSA(P) 5-R	5A	0.029	0.22	250		349	469	1.31	Y	Y			Y	Y
GSA(P) 6-R	6A	0.018	0.19	250		286	455	1.61	Y	Y			Y	Y
GSA(P) 7-R	7A	0.016	0.18	250		372	592	1.81	Y	Y			Y	Y
GSA(P) 8-R	8A	0.013	0.17	250		483	769	1.95	Y	Y			Y	Y
GSA(P) 10-R	10A	0.010	0.17	250		817	1300	2.26			Y	Y	Y	Y
GSA(P) 12-R	12A	0.008	0.15	250		1277	2031	2.56			Y	Y	Y	Y
GSA(P) 15-R	15A	0.006	0.15	250		2123	3377	2.96			Y	Y	Y	Y

Consult manufacturer for other ratings

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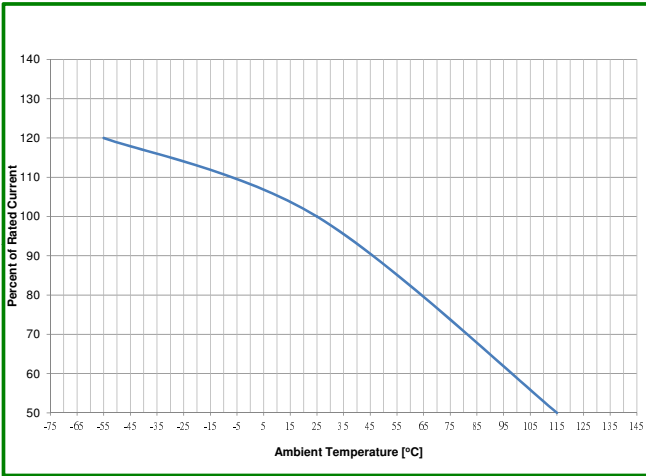
Type GSA / GSAP Slow Blow Fuse Series

6 x 32 mm Ceramic Tube
RoHS 6 Compliant



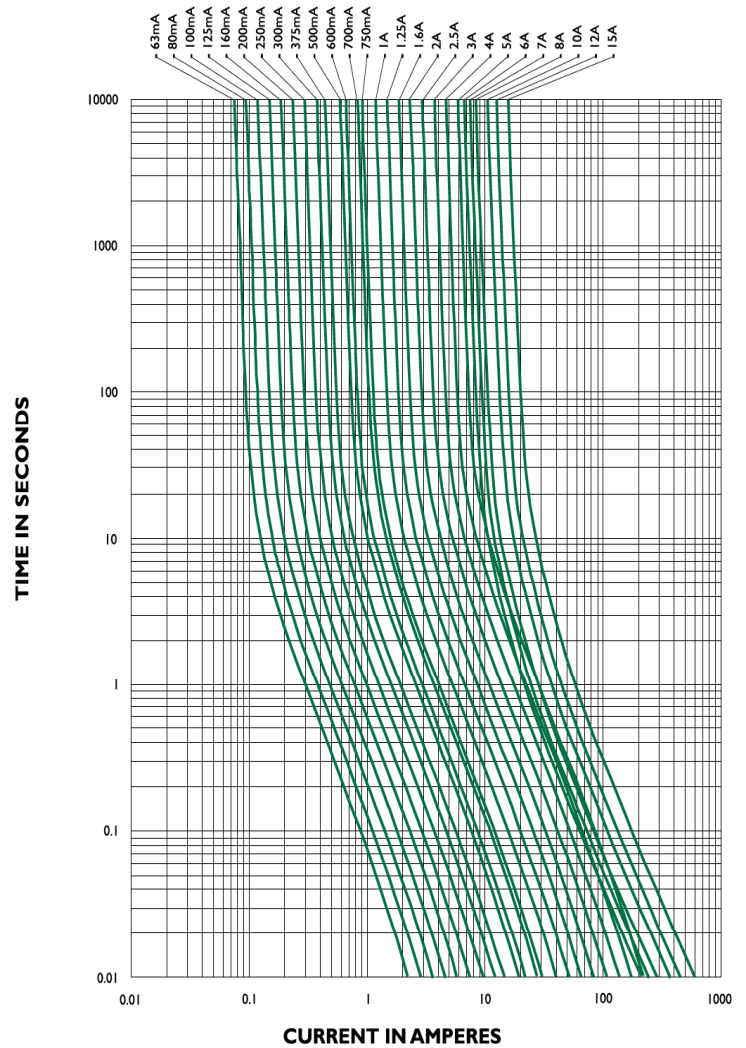
GSA May2012C

Temperature Derating Curve



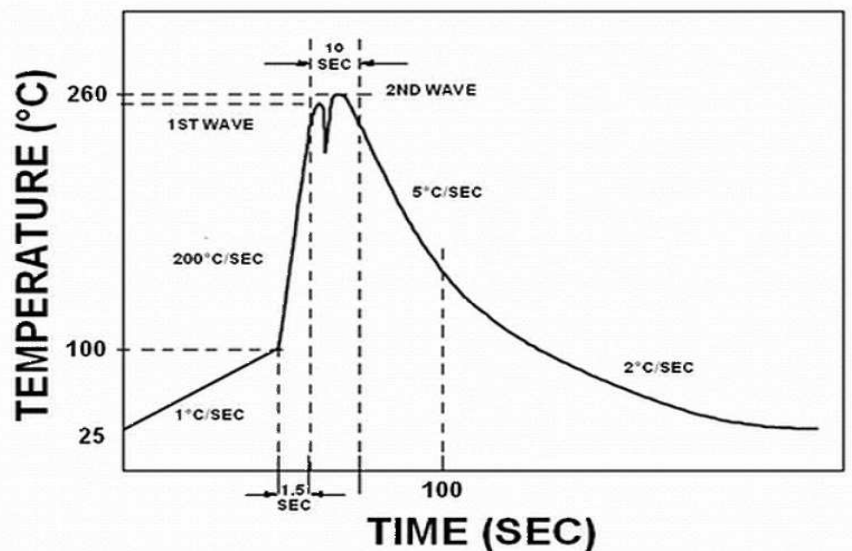
Average Time Current Curve

GSA / GSAP - TIME CURRENT CHARACTERISTIC 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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GSA May2012D

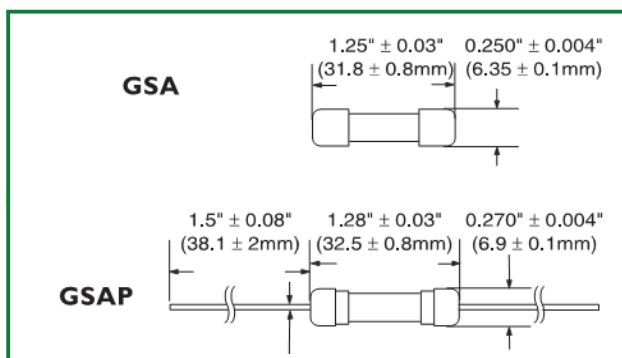
Physical Specifications

Materials	Body : Ceramic
	Cap : Nickel Plated Brass Caps
	Leads: Matte Tin Plated Copper
Marking	On Fuse:
	"bel" , "GSA" , " Current Rating", "Voltage Rating",
	"Appropriate Safety Logos", " "(RoHS 6 compliant)
	On label:
	"bel" , "GSA", or "GSAP", "Current Rating", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and "(China RoHS compliant).

Environmental Specifications

Shock Resistance	MIL-STD-202G, Method 213B, Test Condition I (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

Mechanical Dimensions



Ordering Information

06XX R XXXX - X X

FUSE TYPE

- 0606 = GSA
- 0616 = GSAP
- R = RoHS Compliant

AMPERE RATING

Refer to fuse FGNO explanation table

QUANTITY & PACKAGING CODE

- 3 = 100 pcs / Bulk bag, 1K / Box ,Cartridge Type Fuse for 0606
- = 500 pcs/ Bulk bag / box, Pigtail Type Fuse for 0616
- 7 = 1000 pcs / Reel, Tape and Reel

VOLTAGE CODE

- 3 = 250V
- 2 = 125V

* Diameter lead 0.040" for all ratings

Specifications subject to change without notice

Packaging

Packaging Option	Packaging Specification	Quantity	Packaging Code	Inside Tape Spacing
Bulk	N/A	100	33	N/A
Bulk (Pigtail Type)	N/A	500	33	N/A
Tape & Reel, 10 mm Pitch	EIA-296-F	1000	73	73

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