

# Type 3SB/3SBP

## Slow Blow Fuse Series

**HF** **Pb** 3SB/3SBP Series, 6x32mm Glass Tube Slow Blow Fuse **RoHS 6 Compliant**

### Description

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

### Features

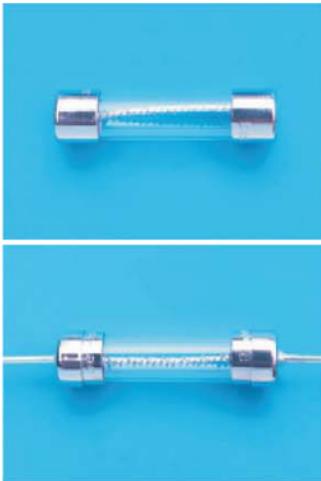
- Meet UL and CSA standard 248-14
- Wide operating temperature range
- Bulk and Tape & Reel packing available
- RoHS 6 compliant
- Halogen Free
- Leadfree

### Applications

Provide individual protection for components or internal circuits.

- Power supplies
- Battery charger
- Monitor
- Adapter

LEAD FREE = **Pb**  
HALOGEN FREE = **HF**



### Physical Specifications

Materials	Body : Glass
	Cap : Nickel Plated Brass Caps
	Leads : Matte Tin Plated Copper
Marking	On Fuse :
	"bel", "3SB", "Current Rating", "Voltage Rating",
	"Appropriate Safety Logos", "✓" (RoHS 6 compliant)
	On Label :
	"bel", "3SB" or "3SBP", "Current Rating", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and "M", "G" (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%	5 sec	30 sec

### Safety Agency Approvals

SAFETY AGENCY	SAFETY AGENCY CERTIFICATE NUMBER	VOLTAGE RATING (V)	AMPERE RANGE / VOLT @ I.R. ABILITY*
	E20624	63mA - 8A / 250V AC 8.1A - 15A / 125V AC	63mA - 8A / 125V AC@ 10,000A 63mA - 8A / 250V AC@ 200A 8.1A - 15A / 125V AC@ 10,000A
	LR39772		63mA - 1A / 250V AC@ 35A >1A - 3.5A / 250V AC@ 100A >3.5A - 8A / 250V AC@ 200A 8.1A - 15A / 125V AC@ 10,000A
	JET1037-31003-1010 JET1037-31003-1011 JET1037-31003-1007		1A - 5A / 125V AC @ 500A >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 <sup>2</sup> T <10 mSec (A <sup>2</sup> Sec)	Melting I <sup>2</sup> T @10 In (A <sup>2</sup> Sec)	Maximum Power Dissipation (W)	Agency Approvals		
								UL	SP	CSA
3SB (P) 63-R	63mA	75.5	7.33	See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings	0.09	0.10	0.7	Y	Y	
3SB (P) 80-R	80mA	48.4	6.27		0.13	0.15	0.7	Y	Y	
3SB (P) 100-R	100mA	29.4	4.41		0.21	0.24	0.5	Y	Y	
3SB (P) 125-R	125mA	17.5	3.45		0.32	0.37	0.6	Y	Y	
3SB (P) 160-R	160mA	12.3	3.13		0.50	0.58	0.6	Y	Y	
3SB (P) 200-R	200mA	7.1	2.13		0.77	0.91	0.6	Y	Y	
3SB (P) 250-R	250mA	5.0	1.97		1.2	1.4	0.6	Y	Y	
3SB (P) 300-R	300mA	3.2	1.52		1.9	2.2	0.7	Y	Y	
3SB (P) 375-R	375mA	2.14	1.26		2.6	3.2	0.7	Y	Y	
3SB (P) 500-R	500mA	1.38	1.07		4.4	5.4	0.8	Y	Y	
3SB (P) 750-R	750mA	0.642	0.68		9	10	0.8	Y	Y	
3SB (P) 1-R	1A	0.374	0.59		16	21	0.9	Y	Y	Y
3SB (P) 1.25-R	1.25A	0.248	0.43		25	32	0.9	Y	Y	Y
3SB (P) 1.6-R	1.6A	0.155	0.38		39	50	1.0	Y	Y	Y
3SB (P) 2-R	2A	0.115	0.36		61	79	1.0	Y	Y	Y
3SB (P) 2.5-R	2.5A	0.079	0.29		94	123	1.1	Y	Y	Y
3SB (P) 3-R	3A	0.058	0.27		146	192	1.1	Y	Y	Y
3SB (P) 4-R	4A	0.039	0.23		226	300	1.2	Y	Y	Y
3SB (P) 5-R	5A	0.029	0.22		349	469	1.3	Y	Y	Y
3SB (P) 6-R	6A	0.018	0.19		286	455	1.6	Y	Y	Y
3SB (P) 7-R	7A	0.016	0.18		372	592	1.8	Y	Y	Y
3SB (P) 8-R	8A	0.013	0.17		483	769	1.9	Y	Y	Y
3SB (P) 10-R	10A	0.010	0.17		817	1300	2.3	Y	Y	Y
3SB (P) 12-R	12A	0.008	0.15		1277	2031	2.6	Y	Y	Y
3SB (P) 15-R	15A	0.006	0.15		2123	3377	3.0	Y	Y	Y

Consult manufacturer for other ratings

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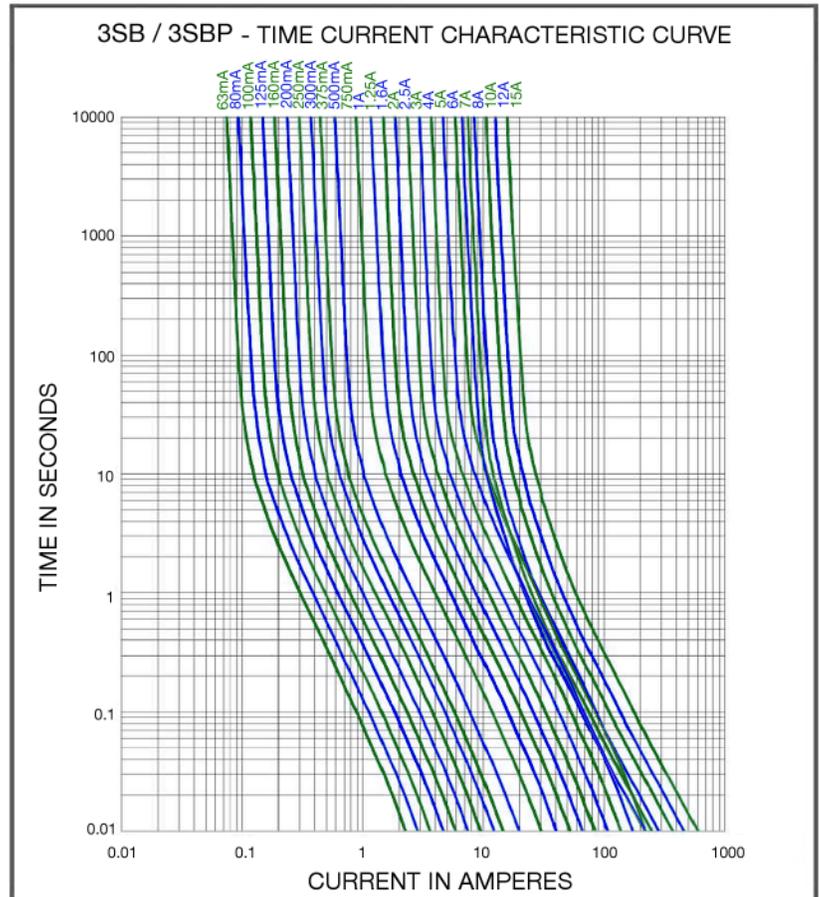
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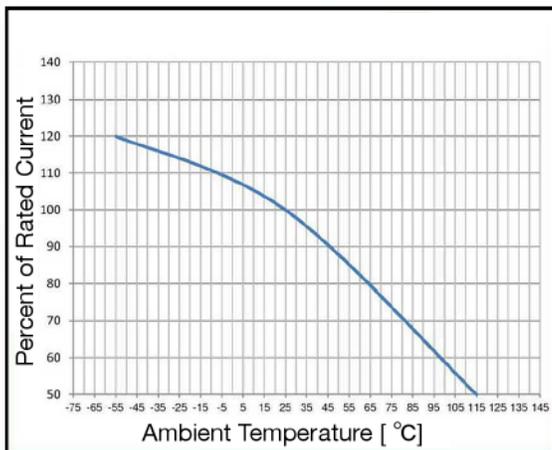
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RoHS 6 Compliant

### Average Time Current Curve

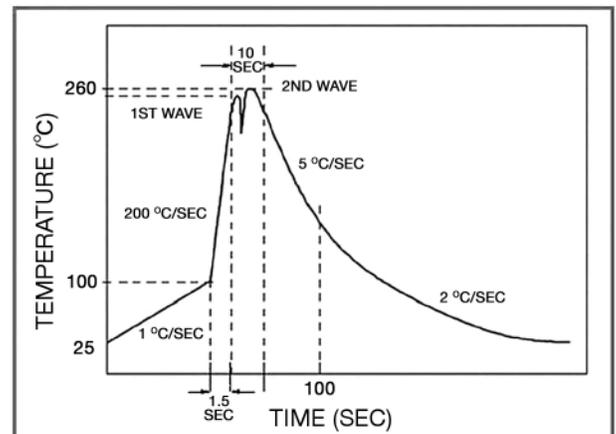


### Temperature Derating Curve



### 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 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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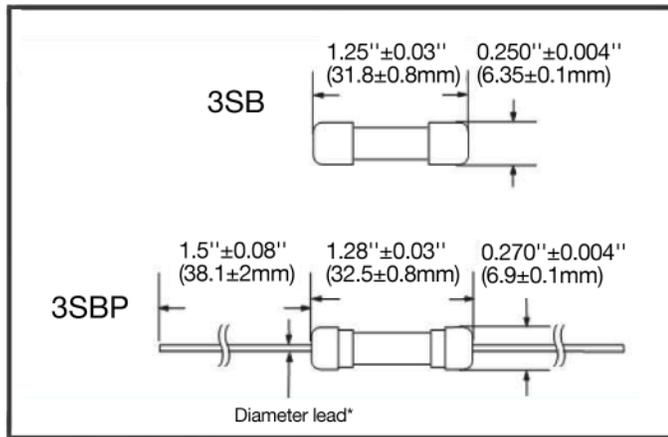
### 3SB(P) Fuse FGNO Explanation 06X2 R [XXX1] - XX

0602R=3SB/0612R=3SBP; [XXX1]=Ampere Rating; XX=See Ordering Information as below

Catalog number	FGNO / Order Number	
	3SB	3SBP
3SB (P) 63-R	0602R0061-33	0612R0061-X3
3SB (P) 80-R	0602R0081-33	0612R0081-X3
3SB (P) 100-R	0602R0101-33	0612R0101-X3
3SB (P) 125-R	0602R0121-33	0612R0121-X3
3SB (P) 160-R	0602R0161-33	0612R0161-X3
3SB (P) 200-R	0602R0201-33	0612R0201-X3
3SB (P) 250-R	0602R0251-33	0612R0251-X3
3SB (P) 300-R	0602R0301-33	0612R0301-X3
3SB (P) 375-R	0602R0371-33	0612R0371-X3
3SB (P) 500-R	0602R0501-33	0612R0501-X3
3SB (P) 750-R	0602R0751-33	0612R0751-X3

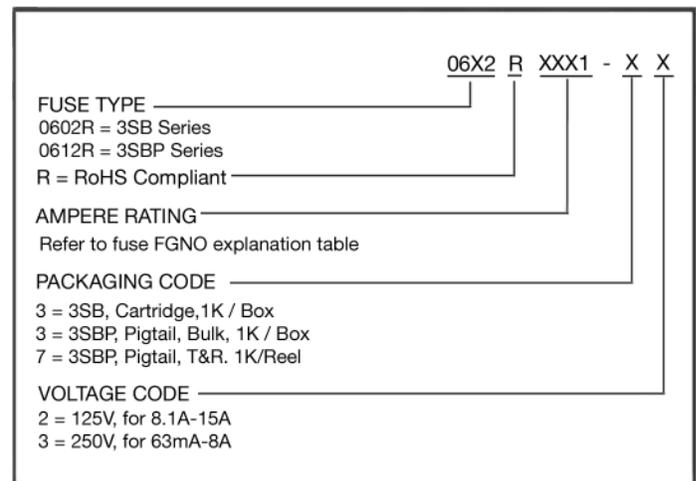
Catalog number	FGNO / Order Number	
	3SB	3SBP
3SB (P) 1-R	0602R1001-33	0612R1001-X3
3SB (P) 1.25-R	0602R1251-33	0612R1251-X3
3SB (P) 1.6-R	0602R1601-33	0612R1601-X3
3SB (P) 2-R	0602R2001-33	0612R2001-X3
3SB (P) 2.5-R	0602R2501-33	0612R2501-X3
3SB (P) 3-R	0602R3001-33	0612R3001-X3
3SB (P) 4-R	0602R4001-33	0612R4001-X3
3SB (P) 5-R	0602R5001-33	0612R5001-X3
3SB (P) 6-R	0602R6001-33	0612R6001-X3
3SB (P) 7-R	0602R7001-33	0612R7001-X3
3SB (P) 8-R	0602R8001-33	0612R8001-X3
3SB (P) 10-R	0602R9101-32	0612R9101-X2
3SB (P) 12-R	0602R9121-32	0612R9121-X2
3SB (P) 15-R	0602R9151-32	0612R9151-X2

### Mechanical Dimensions



\*Ratings 5A and less have 0.032" diameter lead;  
Ratings 6A and above have 0.040" diameter lead.

### Ordering Information



### 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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