

62mA-400mA EOL – Last Buy Date is Jun 30, 2020  
No replacements for these ratings

## Type 3SB / 3SBP Slow Blow Fuse Series

HF P6 3SB/3SBP Series, 6x32mm Glass Tube Slow Blow Fuse

RoHS 2 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 packing available
- RoHS 2 compliant
- Halogen Free
- Lead Free

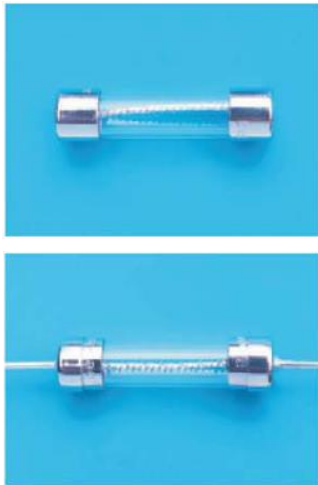
### Applications

Provide individual protection for components or internal circuits.

- Power supplies
- Battery charger
- Monitor
- Adapter

LEAD FREE = P6

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 2 compliant)                                                                                                          |
|           | On Label :                                                                                                                                                   |
|           | "bel", "3SB" or "3SBP", "Current Rating", "Voltage Rating", "Interrupting Rating",<br>"Appropriate Safety Logos" and "✓", "P6", "CE" (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                | Voltage Rating (V)                              | Ampere Range / Volt @ I.R. ability*                                                               |
|-------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------|
|  | E20624                                   | 63mA-8A/<br>250V AC<br><br>8.1A-15A/<br>125V AC | 63mA-8A/125V AC@10,000A<br>63mA-8A/250V AC@200A<br>8.1A-15A/125V AC@10,000A                       |
|  | LR39772                                  |                                                 | 63mA-1A/250V AC@35A<br>>1A-3.5A/250V AC@100A<br>>3.5A-8A/250V AC@200A<br>8.1A-15A/125V AC@10,000A |
|  | JET1037-31003-1010<br>JET1037-31003-1011 |                                                 | 1A-5A/125V AC@500A                                                                                |
|                                                                                     | JET1037-31003-1007                       |                                                 | >5A-15A/125V AC@300A                                                                              |
| *I.R.= Interrupting Rating = Short Circuit Rating(Amps)                             |                                          |                                                 |                                                                                                   |

# Type 3SB / 3SBP

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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 (ohms) | 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                                                                    |                                                                                     |                                                                                     |
|----------------|---------------|--------------------------------|-------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                |               |                                |                               |                                                                                         |                                                        |                                                      |                               |  |  |  |
| 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                          | See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings | 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



Specifications subject to change without notice

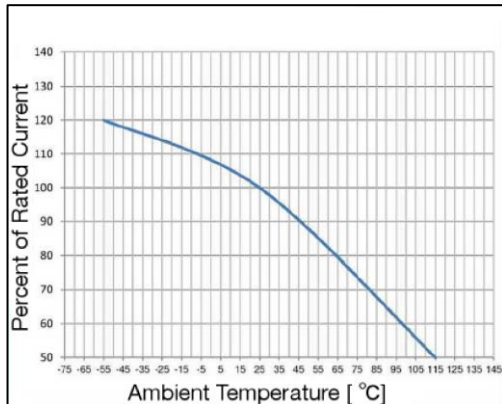
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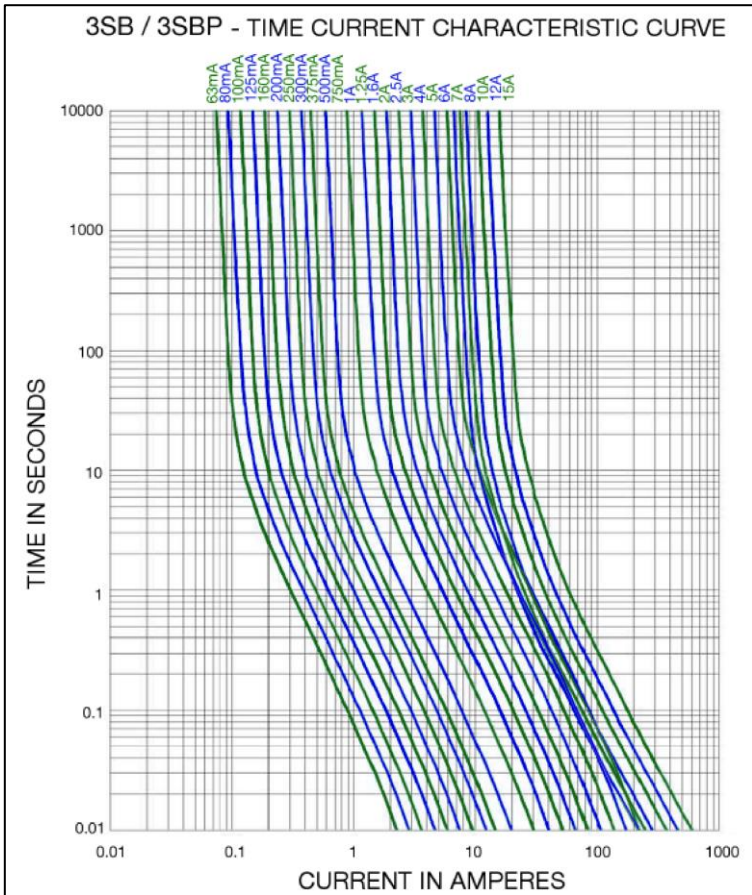
# Type 3SB / 3SBP

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Temperature Derating Curve

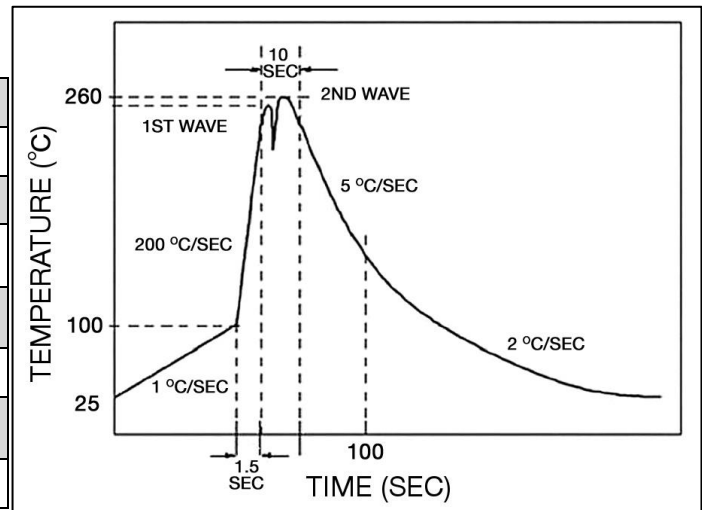


Average Time Current Curve



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<br>Max 4°C / second |
| Final preheat temperature                          | within 125°C of soldering temperature        |
| Peak temperature T <sub>p</sub>                    | 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

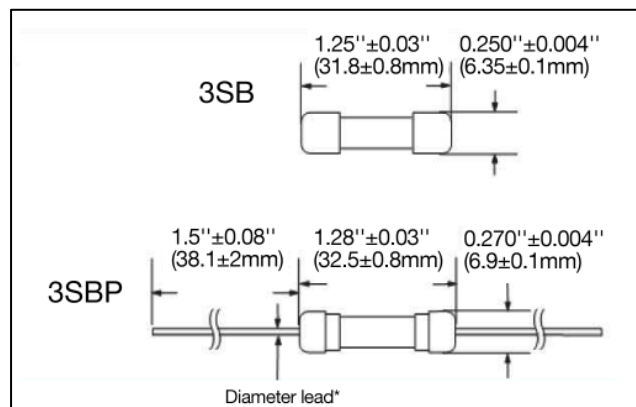
06X2 R [XXXX] -XX

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        | 0612R0061-33 |
| 3SB(P) 80-R    | 0602R0081-33        | 0612R0081-33 |
| 3SB(P) 100-R   | 0602R0101-33        | 0612R0101-33 |
| 3SB(P) 125-R   | 0602R0121-33        | 0612R0121-33 |
| 3SB(P) 160-R   | 0602R0161-33        | 0612R0161-33 |
| 3SB(P) 200-R   | 0602R0201-33        | 0612R0201-33 |
| 3SB(P) 250-R   | 0602R0251-33        | 0612R0251-33 |
| 3SB(P) 300-R   | 0602R0301-33        | 0612R0301-33 |
| 3SB(P) 375-R   | 0602R0371-33        | 0612R0371-33 |
| 3SB(P) 500-R   | 0602R0501-33        | 0612R0501-33 |
| 3SB(P) 750-R   | 0602R0751-33        | 0612R0751-33 |
|                |                     |              |
|                |                     |              |
|                |                     |              |

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

## Mechanical Dimensions



\*Ratings 5A and less have 0.032"±0.002" diameter lead;  
Ratings 6A and above have 0.039"±0.002" diameter lead.

## Ordering Information

06X2 R XXX1 - X X

FUSE TYPE \_\_\_\_\_  
0602R = 3SB Series  
0612R = 3SBP Series  
R = RoHS Compliant \_\_\_\_\_

AMPERE RATING \_\_\_\_\_  
Refer to fuse FGNO explanation table

PACKAGING CODE \_\_\_\_\_  
3 = 3SB, Cartridge, 1K / Box  
3 = 3SBP, Pigtail, Bulk, 1K / Box

VOLTAGE CODE \_\_\_\_\_  
2 = 125V, for 8.1A-15A  
3 = 250V, for 63mA-8A

## 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                 |



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- Работу по проектам и поставку образцов.
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- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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