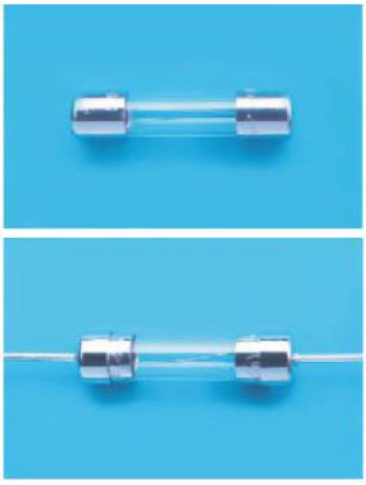
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# Type 5TT / 5TTP

## Slow Blow Fuse Series

5TT/5TTP Series, 5x20mm Glass/Ceramic Tube Slow Blow Fuse — RoHS Compliant



### Description

5x20mm Slow Blow, glass / 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
- Full compliance with EU Directive 2011/65/EU and amending directive 2015/863
- Halogen Free
- Lead Free

### Applications

Provide individual protection for components or internal circuits.

- Power supplies
- Battery charger
- Monitor
- Adapter

LEAD FREE =
HALOGEN FREE = HF

### Physical Specifications

| | |
|---|---|
| Materials | Body : 5A and less: Glass<br>6A and above: Ceramic |
| | Cap : Nickel Plated Brass Caps |
| | Leads : Matte Tin Plated Copper |
| Marking | On Fuse : |
| | "bel", "5TT", "Current Rating", "Voltage Rating", |
| | "Appropriate Safety Logos", " ✓ " （RoHS compliant） |
| | On Label : |
| | "bel", "5TT"or"5TTP", "Current Rating", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and " ", " "(China RoHS compliant). |

### Electrical Characteristics (UL/CSA STD,248-14)

| Testing Current | Blow Time | | Amp Range |
|---|---|---|---|
| | Minimum | Maximum | |
| 100% | 4 hrs. | N/A | 200mA-10A |
| 135% | N/A | 1 Hr. | 200mA-10A |
| 200% | 5 sec | 30 sec | 200mA-3A |
| | 3 sec | 30 sec | 3.1A-10A |

### Safety Agency Approvals

| Safety Agency | Safety Agency Certificate | Ampere Rating/ Voltage Rating | Ampere Range / Volt @ I.R. ability* |
|---|---|---|---|
| | E20624 | 200mA-3A/ 250V AC<br>3.15A-10A/ 125V AC | 200mA-3A/250V AC@100A<br>200mA-8A/125V AC@10,000A |
| | LR39772 | | |
| | E20624 | | 10A/125V AC@1,000A |
| | LR39772 | | |

*I.R.= Interrupting Rating = Short Circuit Rating(Amps)

Specifications subject to change without notice

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Please read our datasheet & drawing disclaimer here.

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# Type 5TT / 5TTP



## Environmental Specifications

| | |
|---|---|
| Shock Resistance | MIL-STD-202G, Method 213B, Test Condition 1<br>(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<br>(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℃,10+/-1 sec) |
| Thermal Shock | MIL-STD-202G, Method 107G, Test Condition B (-65℃ to +125℃). |
| Operating Temperature | -55℃ to +125℃ |
| 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 I²T <10 mSec (A² Sec) | Melting I²T @10 In (A² Sec) | Maximum Power Dissipation (W) | Agency Approvals | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |
| 5TT(P) 200-R | 200mA | 4.98 | 1.45 | See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings | 0.476 | 0.512 | 0.55 | Y | | | Y |
| 5TT(P) 250-R | 250mA | 3.39 | 1.25 | | 0.719 | 0.778 | 0.58 | Y | | | Y |
| 5TT(P) 300-R | 300mA | 2.13 | 0.97 | | 0.885 | 0.959 | 0.60 | Y | | | Y |
| 5TT(P) 400-R | 400mA | 1.33 | 0.83 | | 1.65 | 1.80 | 0.66 | Y | | | Y |
| 5TT(P) 500-R | 500mA | 0.865 | 0.67 | | 2.5 | 2.7 | 0.70 | Y | | | Y |
| 5TT(P) 600-R | 600mA | 0.679 | 0.64 | | 3.8 | 4.2 | 0.75 | Y | | | Y |
| 5TT(P) 700-R | 700mA | 0.465 | 0.49 | | 4.6 | 5.1 | 0.78 | Y | | | Y |
| 5TT(P) 750-R | 750mA | 0.438 | 0.48 | | 5.3 | 5.8 | 0.79 | Y | | | Y |
| 5TT(P) 1-R | 1A | 0.258 | 0.40 | | 8.6 | 9.6 | 0.85 | Y | | | Y |
| 5TT(P) 1.25-R | 1.25A | 0.179 | 0.34 | | 13 | 15 | 0.91 | Y | | | Y |
| 5TT(P) 1.5-R | 1.5A | 0.126 | 0.30 | | 18 | 21 | 0.96 | Y | | | Y |
| 5TT(P) 1.6-R | 1.6A | 0.116 | 0.30 | | 20 | 22 | 0.97 | Y | | | Y |
| 5TT(P) 2-R | 2A | 0.081 | 0.27 | | 30 | 34 | 1.03 | Y | | | Y |
| 5TT(P) 2.5-R | 2.5A | 0.056 | 0.23 | | 45 | 51 | 1.10 | Y | | | Y |
| 5TT(P) 3-R | 3A | 0.043 | 0.21 | | 56 | 63 | 1.13 | Y | | | Y |
| 5TT(P) 3.15-R | 3.15A | 0.040 | 0.21 | | 68 | 78 | 1.17 | | | | Y |
| 5TT(P) 4-R | 4A | 0.029 | 0.19 | | 103 | 119 | 1.25 | | | | Y |
| 5TT(P) 5-R | 5A | 0.020 | 0.17 | | 157 | 180 | 1.33 | | | | Y |
| 5TT(P) 6-R | 6A | 0.015 | 0.15 | | 218 | 317 | 1.23 | | | | Y |
| 5TT(P) 6.3-R | 6.3A | 0.014 | 0.12 | | 230 | 345 | 1.25 | | | | Y |
| 5TT(P) 7-R | 7A | 0.012 | 0.13 | | 295 | 459 | 1.37 | | | | Y |
| 5TT(P) 8-R | 8A | 0.011 | 0.13 | | 319 | 472 | 1.31 | | | | Y |
| 5TT(P) 10-R | 10A | 0.008 | 0.13 | | 467 | 703 | 1.40 | | Y | Y | |

Consult manufacturer for other ratings



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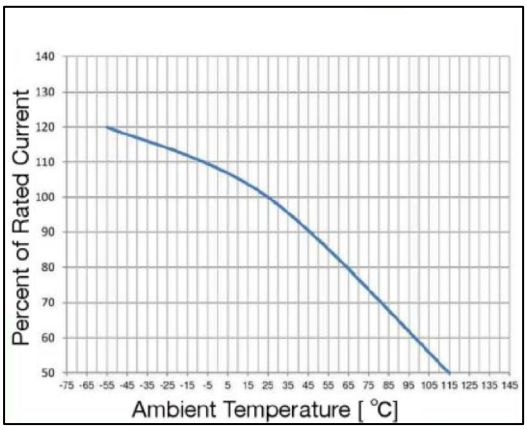
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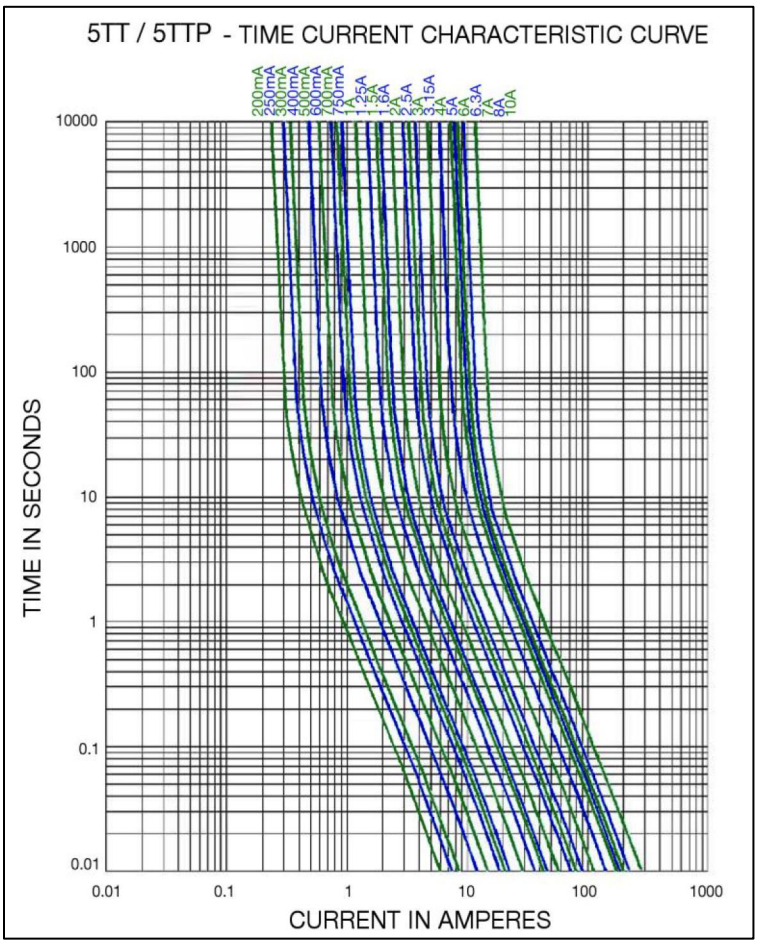
# Type 5TT / 5TTP



## Temperature Derating Curve

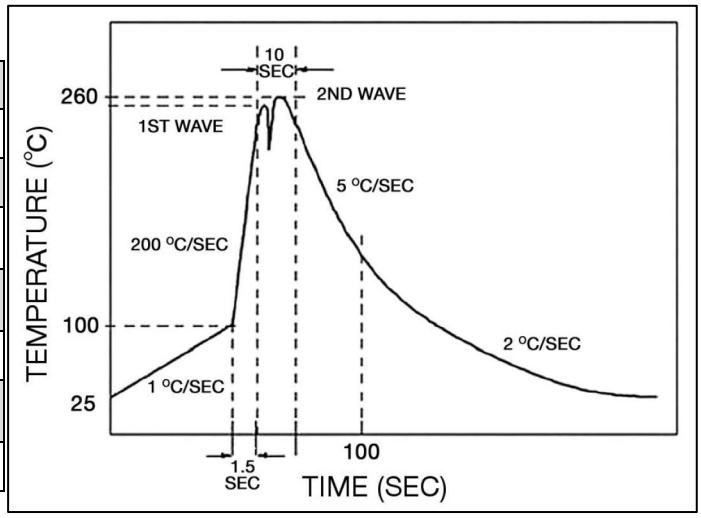



## Average Time Current Curve




## Soldering Parameters

| Lead-free Wave Soldering Profile | |
|---|---|
| Wave Soldering Parameter | |
| Average ramp-up rate | 200℃ / second |
| Heating rate during preheat | typical 1 - 2℃ / second<br>Max 4℃ / second |
| Final preheat temperature | within 125℃ of soldering temperature |
| Peak temperature Tp | 260℃ |
| Time within +0℃ / -5℃ of actual peak temperature | 10 seconds |
| Ramp-down rate | 5℃ / second max. |






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# Type 5TT / 5TTP

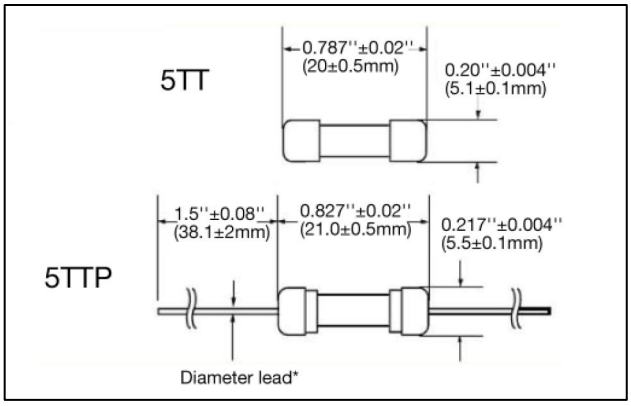


## Fuse FGNO Explanation
## 0654 R [XXXX] -XX
## [XXXX]=Ampere Rating; XX=See Ordering Information as below

| Fraction | Decimal | Milliamps | Bel FGNO[XXXX] |
|---|---|---|---|
| 2/10 | .200 | 200 | 0200 |
| 1/4 | .250 | 250 | 0250 |
| 3/10 | .300 | 300 | 0300 |
| 4/10 | .400 | 400 | 0400 |
| 1/2 | .500 | 500 | 0500 |
| 6/10 | .600 | 600 | 0600 |
| 7/10 | .700 | 700 | 0700 |
| 3/4 | .750 | 750 | 0750 |

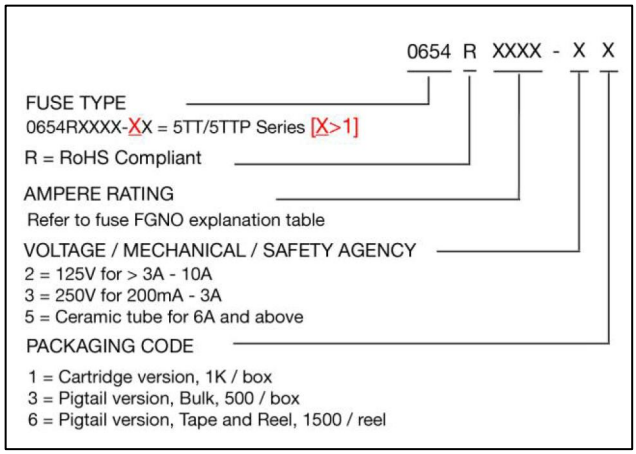
| Fraction | Decimal | Amps | Bel FGNO[XXXX] |
|---|---|---|---|
| | 1.0 | 1 | 1000 |
| 1-1/4 | 1.25 | 1.25 | 1250 |
| 1-1/2 | 1.50 | 1.5 | 1500 |
| | 1.60 | 1.6 | 1600 |
| | 2.0 | 2 | 2000 |
| 2-1/2 | 2.5 | 2.5 | 2500 |
| | 3.0 | 3 | 3000 |
| | 3.15 | 3.15 | 3150 |
| | 4.0 | 4 | 4000 |
| | 5.0 | 5 | 5000 |
| | 6.0 | 6 | 6000 |
| | 6.3 | 6.3 | 6300 |
| | 7.0 | 7 | 7000 |
| | 8.0 | 8 | 8000 |
| | | 10 | 9100 |

## 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




## Packaging

| Packaging Option | Packaging Specification | Quantity | Packaging Code | Inside Tape Spacing |
|---|---|---|---|---|
| Bulk | N/A | 1000 | 31 / 21 / 51 | N/A |
| Bulk (Pigtail Type) | N/A | 500 | 33 / 23 / 53 | N/A |
| Tape & Reel | EIA-296-F | 1500 | 36 / 26 / 56 | 10mm Pitch and 63mm |

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