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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Type 5TT / 5TTP

Slow Blow Fuse Series

HF [Ⓟ] 5TT/5TTP Series, 5x20mm Glass/Ceramic Tube Slow Blow Fuse

RoHS 6 Compliant

Description

5x20mm Slow Blow, glass / ceramic tube body cartridge fuse designed, approved and complied with UL and CSA standard 248-14.

Features

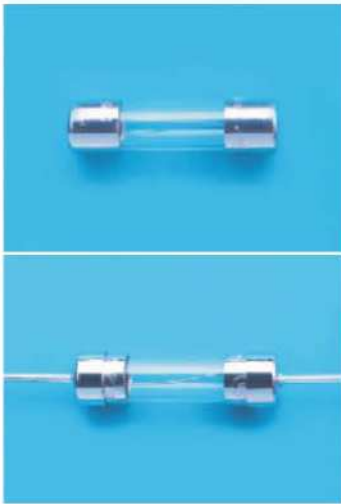
- Meet UL and CSA standard 248-14
- Wide operating temperature range
- Bulk and Tape & Reel packing available
- RoHS 6 compliant
- Halogen Free
- Leadfree

Applications

Provide individual protection for components or internal circuits.

- Power supplies
- Battery charger
- Monitor
- Adapter

LEAD FREE = [Ⓟ]
HALOGEN FREE = HF



Physical Specifications

| | |
|-----------|--|
| Materials | Body : Glass or Ceramic (see info below) |
| | Cap : Nickel Plated Brass Caps |
| | Leads : Matte Tin Plated Copper |
| Marking | On Fuse : |
| | "bel", "5TT", "Current Rating", "Voltage Rating" |
| | "Appropriate Safety Logos", "✓" (RoHS 6 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 | 80mA - 10A |
| 135% | N/A | 1 Hr | 80mA - 10A |
| 200% | 5 sec | 30 sec | 80mA - 3A |
| | 3 sec | 30 sec | 3.1A - 10A |

Safety Agency Approvals

| SAFETY AGENCY | SAFETY AGENCY CERTIFICATE NUMBER | VOLTAGE RATING (V) | AMPERE RANGE / VOLT @ I.R. ABILITY* |
|---------------|--|--|---|
| | E20624 | 80mA - 3A / 250V AC 3.15A - 10A / 125V AC | 80mA - 3A / 250V AC @100A 80mA - 8A / 125V AC @10,000A |
| | LR39772 | | |
| | E20624 | | 10A / 125V AC @1,000A |
| | LR39772 | | |
| | JET 1037-31003-1010 JET 1037-31003-1011 | | 1A - 5A / 125V AC @500A |
| | JET 1037-31003-1007 | | >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 | | | | |
|----------------|---------------|-------------------------------|--------------------------------|---|--|--|-------------------------------|------------------|-----|----|----|-------|
| | | | | | | | | UL | CSA | SP | SE | Other |
| 5TT(P) 80-R | 80mA | 29 | 3.10 | See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings | 0.091 | 0.096 | 0.42 | Y | | | Y | |
| 5TT(P) 100-R | 100mA | 18.8 | 2.52 | | 0.137 | 0.146 | 0.45 | Y | | | Y | |
| 5TT(P) 125-R | 125mA | 12.6 | 2.22 | | 0.208 | 0.221 | 0.48 | Y | | | Y | |
| 5TT(P) 160-R | 160mA | 7.6 | 1.88 | | 0.314 | 0.337 | 0.51 | Y | | | Y | |
| 5TT(P) 200-R | 200mA | 4.98 | 1.45 | | 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 | Y |
| 5TT(P) 1.25-R | 1.25A | 0.179 | 0.34 | | 13 | 15 | 0.91 | Y | | | Y | Y |
| 5TT(P) 1.5-R | 1.5A | 0.126 | 0.30 | | 18 | 21 | 0.96 | Y | | | Y | Y |
| 5TT(P) 1.6-R | 1.6A | 0.116 | 0.30 | | 20 | 22 | 0.97 | Y | | | Y | Y |
| 5TT(P) 2-R | 2A | 0.081 | 0.27 | | 30 | 34 | 1.03 | Y | | | Y | Y |
| 5TT(P) 2.5-R | 2.5A | 0.056 | 0.23 | | 45 | 51 | 1.10 | Y | | | Y | Y |
| 5TT(P) 3-R | 3A | 0.043 | 0.21 | | 56 | 63 | 1.13 | Y | | | Y | Y |
| 5TT(P) 3.15-R | 3.15A | 0.040 | 0.21 | | 68 | 78 | 1.17 | | | | Y | Y |
| 5TT(P) 4-R | 4A | 0.029 | 0.19 | | 103 | 119 | 1.25 | | | | Y | Y |
| 5TT(P) 5-R | 5A | 0.020 | 0.17 | | 157 | 180 | 1.33 | | | | Y | Y |
| 5TT(P) 6-R | 6A | 0.015 | 0.15 | | 218 | 317 | 1.23 | | | | Y | Y |
| 5TT(P) 6.3-R | 6.3A | 0.014 | 0.12 | | 230 | 345 | 1.25 | | | | Y | Y |
| 5TT(P) 7-R | 7A | 0.012 | 0.13 | | 295 | 459 | 1.37 | | | | Y | Y |
| 5TT(P) 8-R | 8A | 0.011 | 0.13 | | 319 | 472 | 1.31 | | | | Y | Y |
| 5TT(P) 10-R | 10A | 0.008 | 0.13 | | 467 | 703 | 1.40 | | Y | Y | Y | Y |

Consult manufacturer for other ratings

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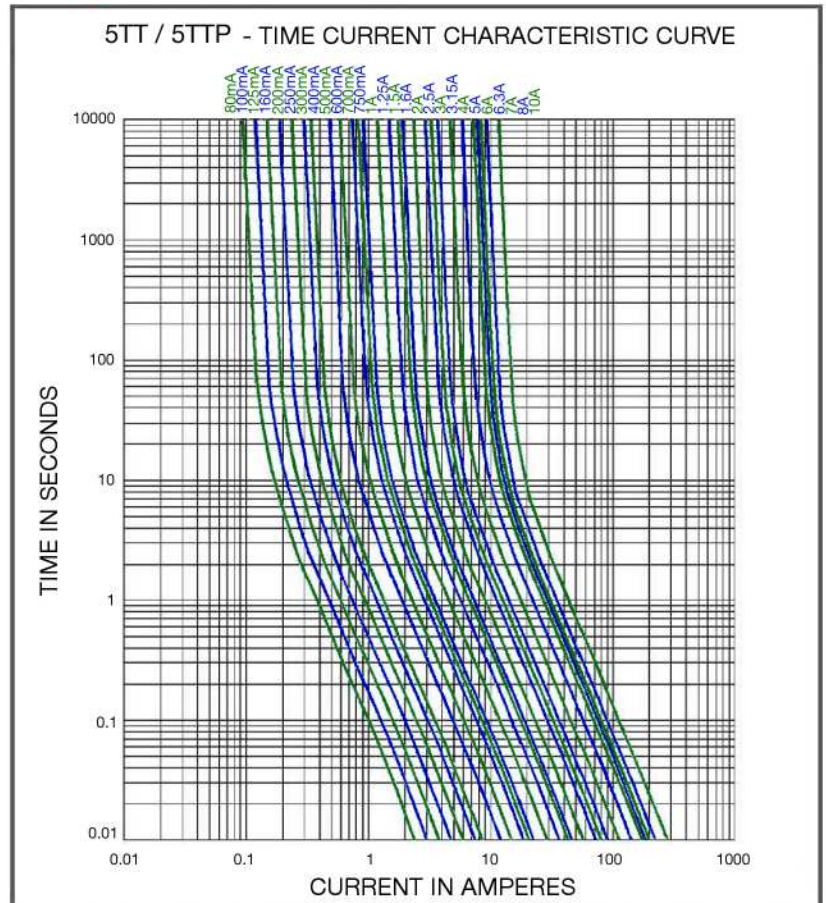
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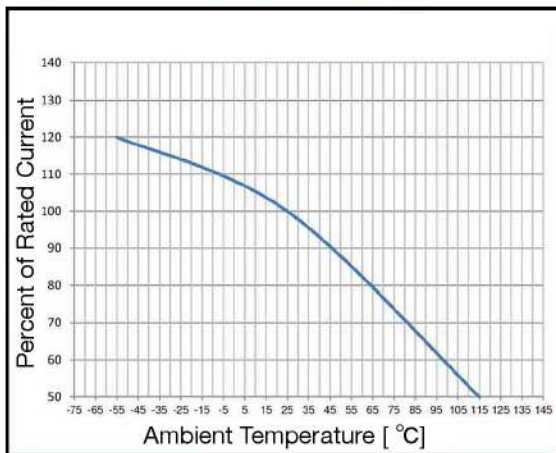
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Average Time Current Curve

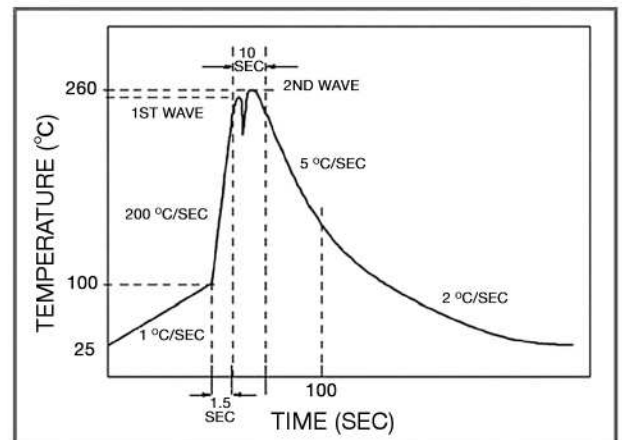


Temperature Derating Curve



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 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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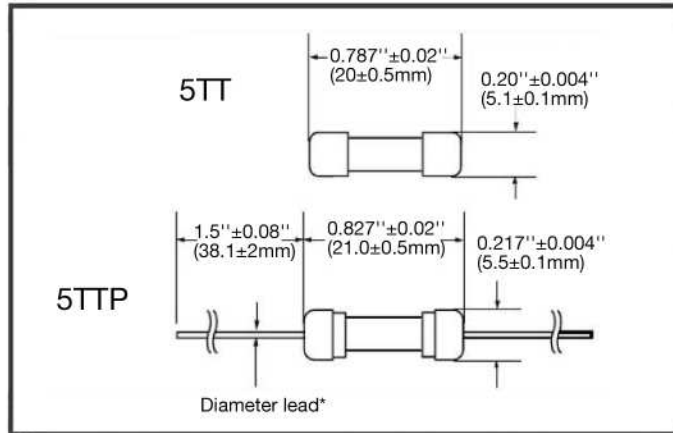
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Fuse FGNO Explanation 0654 R [XXXX] - XX

[XXXX]=Ampere Rating; XX=See Ordering Information as below

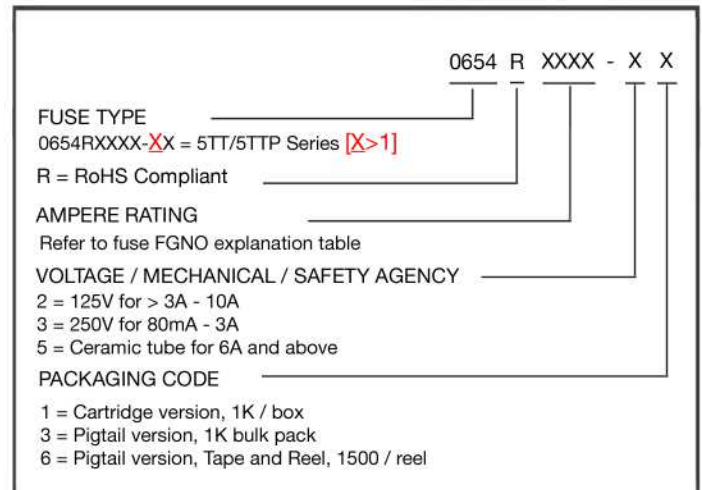
| Fraction | Decimal | Milliamps | Bel FGNO[XXXX] | Fraction | Decimal | Amps | Bel FGNO[XXXX] |
|----------|---------|-----------|----------------|----------|---------|------|----------------|
| 8/100 | 0.080 | 80 | 0080 | | 1.0 | 1 | 1000 |
| 1/10 | .100 | 100 | 0100 | 1-1/4 | 1.25 | 1.25 | 1250 |
| 1/8 | .125 | 125 | 0125 | 1-1/2 | 1.50 | 1.5 | 1500 |
| | .160 | 160 | 0160 | | 1.60 | 1.6 | 1600 |
| 2/10 | .200 | 200 | 0200 | | 2.0 | 2 | 2000 |
| 1/4 | .250 | 250 | 0250 | 2-1/2 | 2.5 | 2.5 | 2500 |
| 3/10 | .300 | 300 | 0300 | | 3.0 | 3 | 3000 |
| 4/10 | .400 | 400 | 0400 | | 3.15 | 3.15 | 3150 |
| 1/2 | .500 | 500 | 0500 | | 4.0 | 4 | 4000 |
| 6/10 | .600 | 600 | 0600 | | 5.0 | 5 | 5000 |
| 7/10 | .700 | 700 | 0700 | | 6.0 | 6 | 6000 |
| 3/4 | .750 | 750 | 0750 | | 6.3 | 6.3 | 6300 |
| | | | | | 7.0 | 7 | 7000 |
| | | | | | 8.0 | 8 | 8000 |
| | | | | | | 10 | 9100 |

Mechanical Dimensions



*Ratings 5A and less have 0.032" diameter lead with glass tube
*Ratings 6A and above have 0.040" diameter lead with ceramic tube

Ordering Information



Packaging

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

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