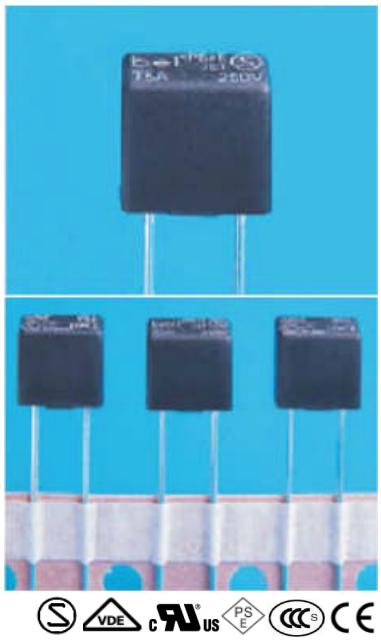
# Type RST

## Time Lag Radial Lead Micro Fuse Series

RST Series — RoHS 2 Compliant



## Description

Sub-miniature, time lag type, 250V rated fuses designed, approved and complied with IEC 60127-3, standard sheet 4.

## Features

- Time lag (250V AC)
- Meet IEC standard 60127-3, sheet 4
- Wide operating temperature range
- Bulk and Tape & Reel packing available
- RoHS 2 compliant
- Halogen Free
- Lead Free

## Applications

Provide individual protection for components or internal circuits.

- Power supplies
- Battery chargers
- Consumer electronics
- Adapter
- Industrial controllers

LEAD FREE =
HALOGEN FREE = HF

## Physical Specifications

| | |
|---|---|
| Materials | Base and Cover : Black thermoplastic, UL 94-V0 |
| | Pins : 100% Matte Tin Plated Copper |
| Marking | On Fuse : |
| | "bel", "T" ,"Current Rating", "250V" & "Appropriate Safety Logos" |
| | On Label : |
| | "bel", "RST", "Current Rating", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and " ", " "(China RoHS compliant). |

## Electrical Characteristics (IEC-127-3 STANDARD SHEET 4)

| Rated Current | 1.5In | 2.1In | 2.75In | | 4In | | 10In | |
|---|---|---|---|---|---|---|---|---|
| | Min | Max | Min | Max | Min | Max | Min | Max |
| 80mA to 6.3A inclusive | 1 | 2 | 400 | 10 | 150 | 3 | 20 | 150 |
| | hour | min. | ms | sec | ms | sec | ms | ms |

In clause 9.2, the test voltage for RST ratings from 80mA to 6.3A is 63VDC.

## Safety Agency Approvals

| Safety Agency | Safety Agency Certificate | Voltage Rating (V) | Ampere Range / Volt @ I.R. ability* |
|---|---|---|---|
| | 1808557 | 80mA-6.3A/ 250V AC | 80mA-5A/250V AC @ 35A or 10 In whichever is greater. |
| VDE | 40011144 40028321 | | 80mA-6.3A/250V AC @ 35A or 10 In whichever is greater. |
| c UL us | E20624 | | 80mA-6.3A/277V AC @ 100A |
| PS E | JET 1037-31007-1001 | | 1A-5A 250V AC @ 100A |
| CCC | 2004010207111444 | | 80mA-5A/250V AC @ 35A or 10 In whichever is greater. |
| *I.R.= Interrupting Rating = Short Circuit Rating(Amps) | | | |

## 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 X 3 axis / no load). |
| Salt Spray Resistance | MIL-STD-202G, Method 101E, Test Condition B (48 hrs.). |
| Solderability | MIL-STD-202G, Method 208H |
| Resistance to solder Heat | MIL-STD-202G, Method 210F, Test Condition C. Top Side. (260℃,20 sec) |
| Moisture Resistance | MIL-STD-202G, Method 202G, Method 106G |
| Operating Temperature | -55℃ to +125℃ |

## 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 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| RST 80 | 80mA | 3.5 | 0.398 | See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings | 0.01 | 0.01 | 0.10 | Y | Y | Y | | Y |
| RST 100 | 100mA | 2.3 | 0.329 | | 0.02 | 0.02 | 0.11 | Y | Y | Y | | Y |
| RST 125 | 125mA | 1.6 | 0.295 | | 0.04 | 0.04 | 0.13 | Y | Y | Y | | Y |
| RST 160 | 160mA | 1.1 | 0.252 | | 0.07 | 0.06 | 0.15 | Y | Y | Y | | Y |
| RST 200 | 200mA | 0.73 | 0.200 | | 0.12 | 0.11 | 0.17 | Y | Y | Y | | Y |
| RST 250 | 250mA | 0.55 | 0.188 | | 0.38 | 0.41 | 0.19 | Y | Y | Y | | Y |
| RST 315 | 315mA | 0.36 | 0.152 | | 0.60 | 0.66 | 0.22 | Y | Y | Y | | Y |
| RST 400 | 400mA | 0.25 | 0.129 | | 0.9 | 1.0 | 0.25 | Y | Y | Y | | Y |
| RST 500 | 500mA | 0.18 | 0.114 | | 1.5 | 1.7 | 0.29 | Y | Y | Y | | Y |
| RST 630 | 630mA | 0.13 | 0.109 | | 2.4 | 2.6 | 0.33 | Y | Y | Y | | Y |
| RST 800 | 800mA | 0.095 | 0.103 | | 3.7 | 4.2 | 0.38 | Y | Y | Y | | Y |
| RST 1 | 1A | 0.070 | 0.090 | | 6 | 7 | 0.44 | Y | Y | Y | Y | Y |
| RST 1.25 | 1.25A | 0.053 | 0.087 | | 9 | 11 | 0.51 | Y | Y | Y | Y | Y |
| RST 1.6 | 1.6A | 0.038 | 0.085 | | 15 | 17 | 0.58 | Y | Y | Y | Y | Y |
| RST 2 | 2A | 0.029 | 0.084 | | 23 | 27 | 0.67 | Y | Y | Y | Y | Y |
| RST 2.5 | 2.5A | 0.022 | 0.084 | | 37 | 43 | 0.77 | Y | Y | Y | Y | Y |
| RST 3.15 | 3.15A | 0.017 | 0.074 | | 58 | 69 | 0.88 | Y | Y | Y | Y | Y |
| RST 4 | 4A | 0.013 | 0.073 | | 92 | 110 | 1.02 | Y | Y | Y | Y | Y |
| RST 5 | 5A | 0.010 | 0.073 | | 145 | 175 | 1.17 | Y | Y | Y | Y | Y |
| RST 6.3 | 6.3A | 0.008 | 0.072 | | 230 | 281 | 1.34 | Y | | Y | | |

Consult manufacturer for other ratings



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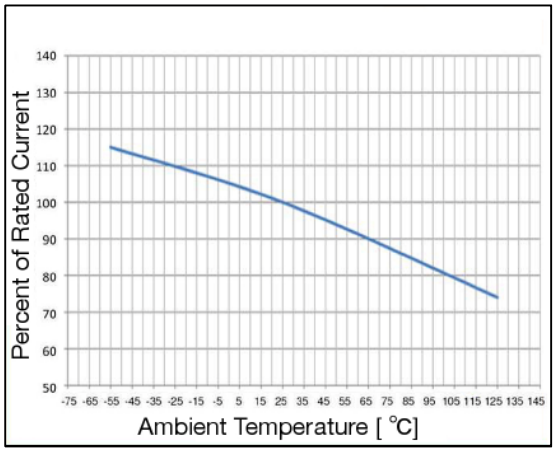
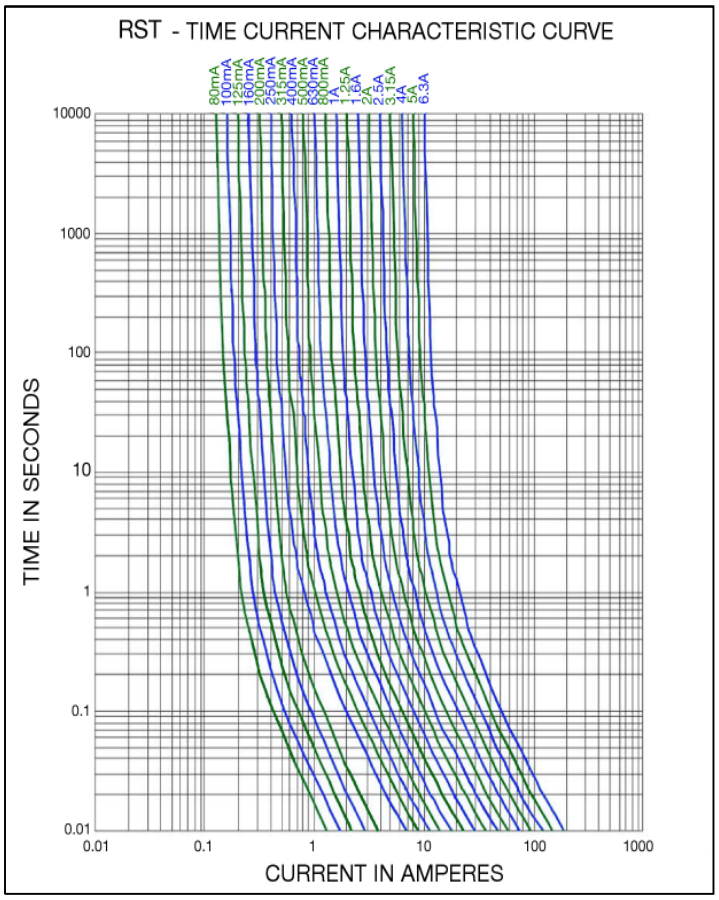
## Temperature Derating Curve

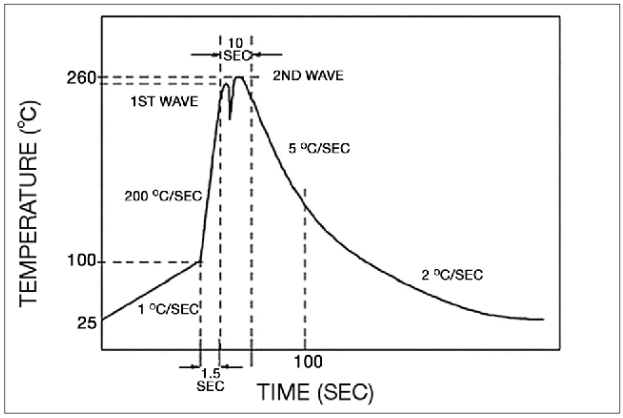



## Average Time Current Curve




## Soldering Parameters

| Lead-free Wave Soldering Profile | |
|---|---|
| Wave Soldering Parameter | |
| Average ramp-up rate | 200℃ / 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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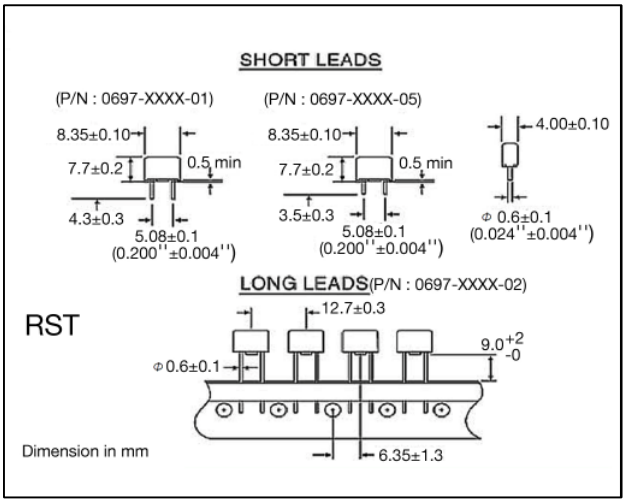
## Fuse FGNO Explanation
## 0697 - [XXXX] X XX
## 0697=RST; [XXXX]=Ampere Rating; XX=See Ordering Information as below

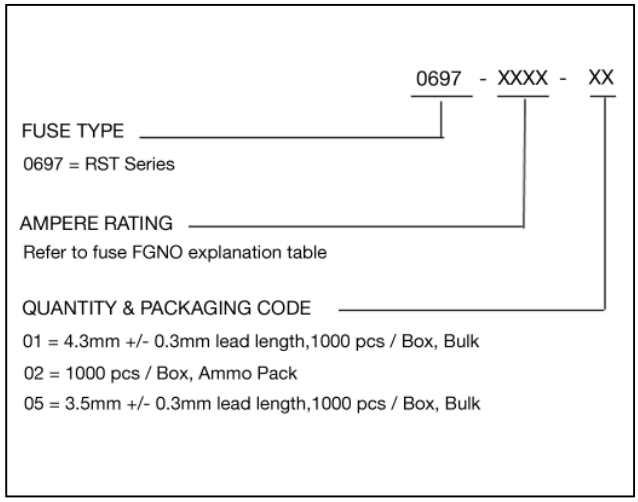
| Fraction | Decimal | Milliamps | Bel FGNO[XXXX] |
|---|---|---|---|
| 8/100 | 0.080 | 80 | 0080 |
| 1/10 | .100 | 100 | 0100 |
| 1/8 | .125 | 125 | 0125 |
| | .160 | 160 | 0160 |
| 2/10 | .200 | 200 | 0200 |
| 1/4 | .250 | 250 | 0250 |
| | .315 | 315 | 0315 |
| 4/10 | .400 | 400 | 0400 |
| 1/2 | .500 | 500 | 0500 |
| | .630 | 630 | 0630 |
| 8/10 | .800 | 800 | 0800 |

| Fraction | Decimal | Amps | Bel FGNO[XXXX] |
|---|---|---|---|
| | 1.0 | 1 | 1000 |
| 1-1/4 | 1.25 | 1.25 | 1250 |
| | 1.60 | 1.6 | 1600 |
| | 2.0 | 2 | 2000 |
| 2-1/2 | 2.5 | 2.5 | 2500 |
| | 3.15 | 3.15 | 3150 |
| | 4.0 | 4 | 4000 |
| | 5.0 | 5 | 5000 |
| | 6.3 | 6.3 | 6300 |
| | | | |
| | | | |

## Mechanical Dimensions




## Ordering Information




## Packaging

| Packaging Option | Packaging Specification | Quantity | Packaging Code |
|---|---|---|---|
| Bulk / bag, 1000 / box | N/A | 1000 | 01 , 05 |
| 12.7 mm pitch, On Tape / box | IEC-286-2 | 1000 | 02 |



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