

# Type 2JQ / 3JQ

## Quick Acting Fuse Series

HF (Pb) 2JQ/3JQ Series, 5x15mm Glass Tube Quick Acting Fuse RoHS 6 Compliant

### Description

5x15mm Quick Acting , 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", "JQ", "Current Rating", "Voltage Rating",                                                                                                      |
|           | "Appropriate Safety Logos", "✓"(RoHS 6 compliant)                                                                                                     |
|           | On Label :                                                                                                                                            |
|           | "bel", "2JQ" or "3JQ", "Current Rating", "Voltage Rating", "Interrupting Rating",<br>" Appropriate Safety Logos" and "Ⓜ", "Ⓢ" (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%            | N/A       | 1 sec   |

### Safety Agency Approvals

| SAFETY AGENCY | SAFETY AGENCY CERTIFICATE NUMBER         | VOLTAGE RATING (V)  | AMPERE RANGE / VOLT @ I.R. ABILITY*         |
|---------------|------------------------------------------|---------------------|---------------------------------------------|
| UL US         | E20624                                   | 100mA - 7A /350V AC | 100mA - 7A / 350V AC@ 100A<br>140V DC@ 150A |
| SP            | LR39772                                  |                     | 100mA - 7A / 350V AC@ 100A                  |
| PSE           | 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)

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                                                                      |                                                                                       |                                                                                       |
|----------------|---------------|-------------------------------|--------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                |               |                               |                                |                                                                                         |                                                        |                                                      |                               |  |  |  |
| JQ 100-R       | 100mA         | 4.80                          | 2.10                           | See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings | 0.0010                                                 | 0.0010                                               | 0.029                         | Y                                                                                     | Y                                                                                     |                                                                                       |
| JQ 125-R       | 125mA         | 4.29                          | 2.05                           |                                                                                         | 0.0019                                                 | 0.0020                                               | 0.035                         | Y                                                                                     | Y                                                                                     |                                                                                       |
| JQ 150-R       | 150mA         | 3.35                          | 1.90                           |                                                                                         | 0.004                                                  | 0.004                                                | 0.041                         | Y                                                                                     | Y                                                                                     |                                                                                       |
| JQ 200-R       | 200mA         | 2.01                          | 1.70                           |                                                                                         | 0.007                                                  | 0.008                                                | 0.048                         | Y                                                                                     | Y                                                                                     |                                                                                       |
| JQ 250-R       | 250mA         | 1.54                          | 1.62                           |                                                                                         | 0.014                                                  | 0.015                                                | 0.057                         | Y                                                                                     | Y                                                                                     |                                                                                       |
| JQ 300-R       | 300mA         | 1.18                          | 1.55                           |                                                                                         | 0.026                                                  | 0.029                                                | 0.067                         | Y                                                                                     | Y                                                                                     |                                                                                       |
| JQ 350-R       | 350mA         | 0.98                          | 1.50                           |                                                                                         | 0.036                                                  | 0.040                                                | 0.072                         | Y                                                                                     | Y                                                                                     |                                                                                       |
| JQ 400-R       | 400mA         | 0.46                          | 0.60                           |                                                                                         | 0.05                                                   | 0.06                                                 | 0.079                         | Y                                                                                     | Y                                                                                     |                                                                                       |
| JQ 500-R       | 500mA         | 0.33                          | 0.55                           |                                                                                         | 0.10                                                   | 0.11                                                 | 0.092                         | Y                                                                                     | Y                                                                                     |                                                                                       |
| JQ 600-R       | 600mA         | 0.26                          | 0.48                           |                                                                                         | 0.14                                                   | 0.16                                                 | 0.10                          | Y                                                                                     | Y                                                                                     |                                                                                       |
| JQ 750-R       | 750mA         | 0.188                         | 0.45                           |                                                                                         | 0.26                                                   | 0.30                                                 | 0.12                          | Y                                                                                     | Y                                                                                     |                                                                                       |
| JQ 800-R       | 800mA         | 0.170                         | 0.40                           |                                                                                         | 0.27                                                   | 0.40                                                 | 0.17                          | Y                                                                                     | Y                                                                                     |                                                                                       |
| JQ 1-R         | 1A            | 0.112                         | 0.40                           |                                                                                         | 0.62                                                   | 0.65                                                 | 0.21                          | Y                                                                                     | Y                                                                                     | Y                                                                                     |
| JQ 1.25-R      | 1.25A         | 0.068                         | 0.17                           |                                                                                         | 0.80                                                   | 0.82                                                 | 0.26                          | Y                                                                                     | Y                                                                                     | Y                                                                                     |
| JQ 1.5-R       | 1.5A          | 0.056                         | 0.16                           |                                                                                         | 1.4                                                    | 1.4                                                  | 0.32                          | Y                                                                                     | Y                                                                                     | Y                                                                                     |
| JQ 1.6-R       | 1.6A          | 0.054                         | 0.16                           |                                                                                         | 1.8                                                    | 1.9                                                  | 0.35                          | Y                                                                                     | Y                                                                                     | Y                                                                                     |
| JQ 2-R         | 2A            | 0.041                         | 0.16                           |                                                                                         | 2.3                                                    | 2.5                                                  | 0.39                          | Y                                                                                     | Y                                                                                     | Y                                                                                     |
| JQ 2.5-R       | 2.5A          | 0.033                         | 0.15                           |                                                                                         | 4.0                                                    | 4.3                                                  | 0.48                          | Y                                                                                     | Y                                                                                     | Y                                                                                     |
| JQ 3-R         | 3A            | 0.027                         | 0.15                           |                                                                                         | 4.6                                                    | 5.6                                                  | 0.59                          | Y                                                                                     | Y                                                                                     | Y                                                                                     |
| JQ 3.5-R       | 3.5A          | 0.022                         | 0.14                           |                                                                                         | 9                                                      | 10                                                   | 0.66                          | Y                                                                                     | Y                                                                                     | Y                                                                                     |
| JQ 4-R         | 4A            | 0.019                         | 0.14                           |                                                                                         | 12                                                     | 13                                                   | 0.73                          | Y                                                                                     | Y                                                                                     | Y                                                                                     |
| JQ 5-R         | 5A            | 0.015                         | 0.13                           |                                                                                         | 20                                                     | 23                                                   | 0.9                           | Y                                                                                     | Y                                                                                     | Y                                                                                     |
| JQ 6-R         | 6A            | 0.012                         | 0.13                           |                                                                                         | 35                                                     | 40                                                   | 1.1                           | Y                                                                                     | Y                                                                                     | Y                                                                                     |
| JQ 7-R         | 7A            | 0.010                         | 0.12                           |                                                                                         | 46                                                     | 53                                                   | 1.2                           | Y                                                                                     | Y                                                                                     | Y                                                                                     |

Consult manufacturer for other ratings

Specifications subject to change without notice



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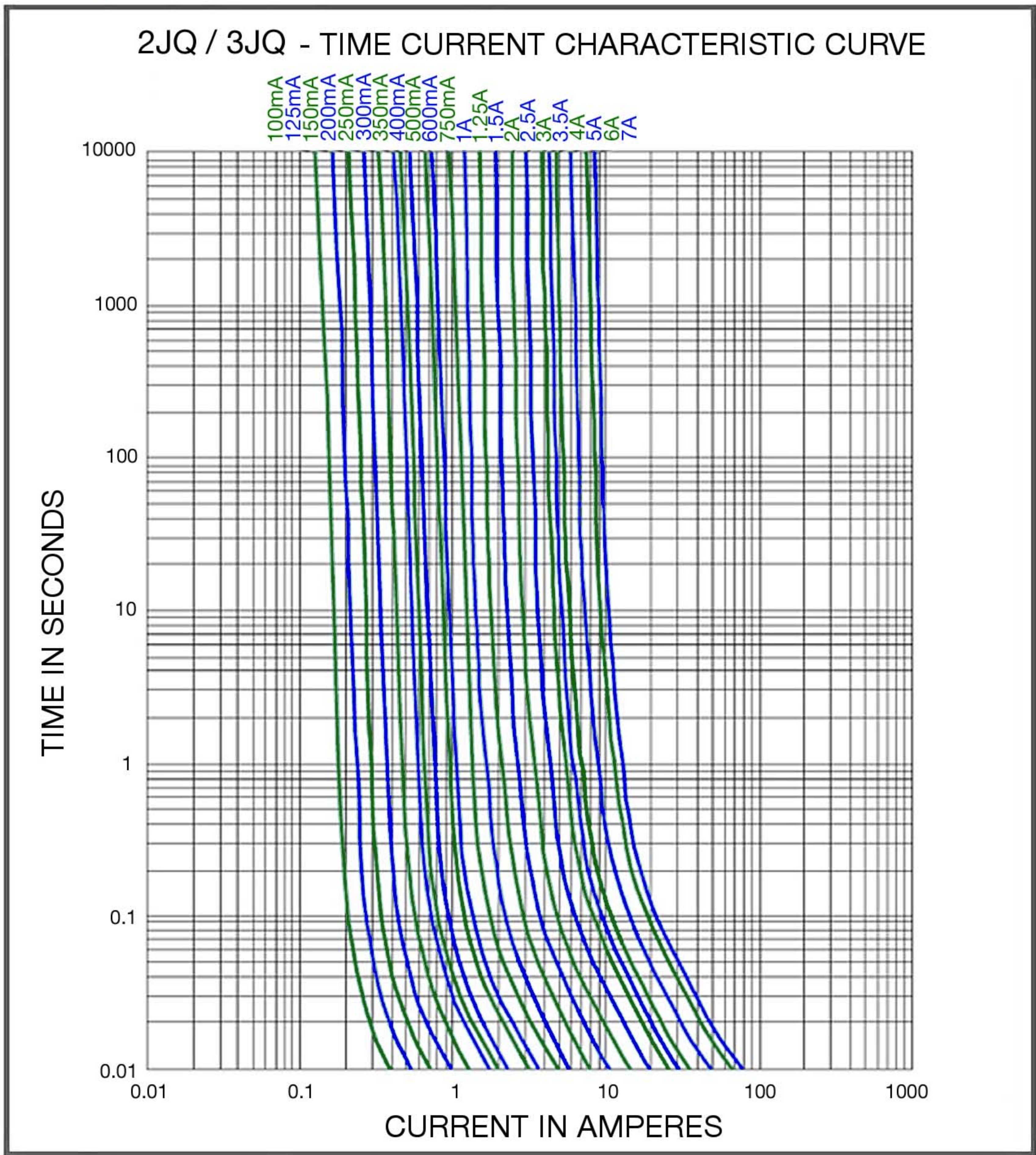
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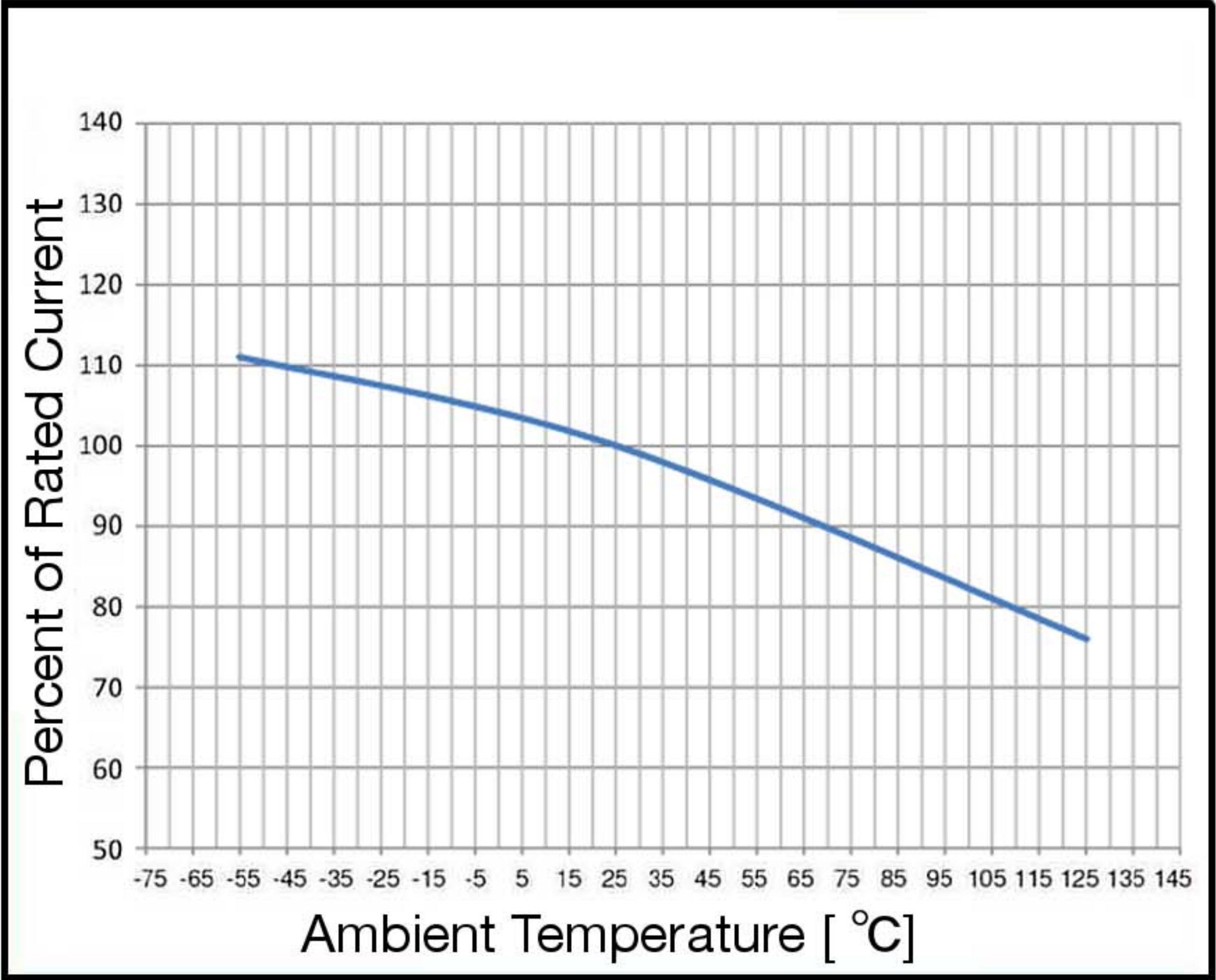
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Average Time Current Curve

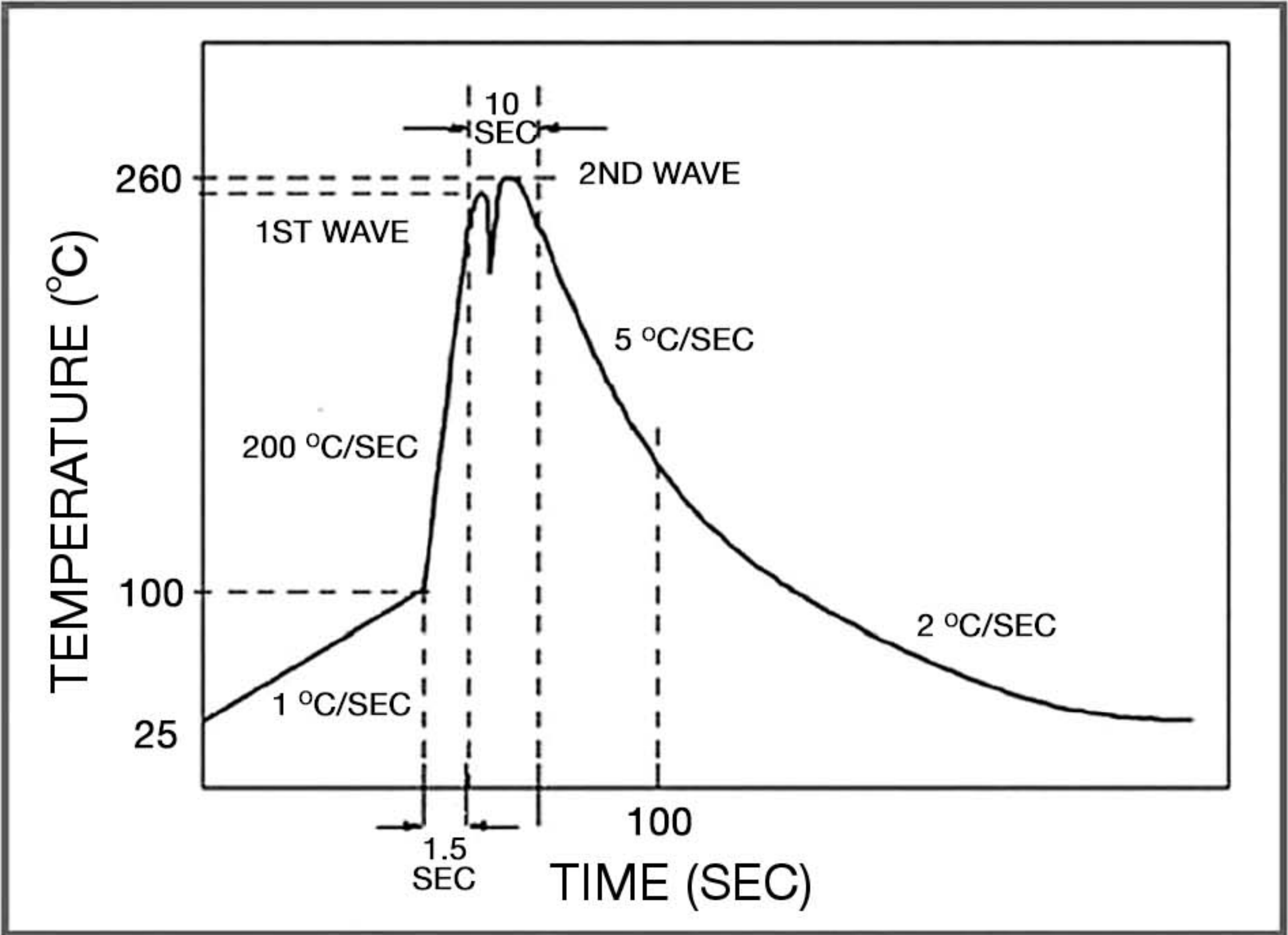


Temperature Derating Curve



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<br>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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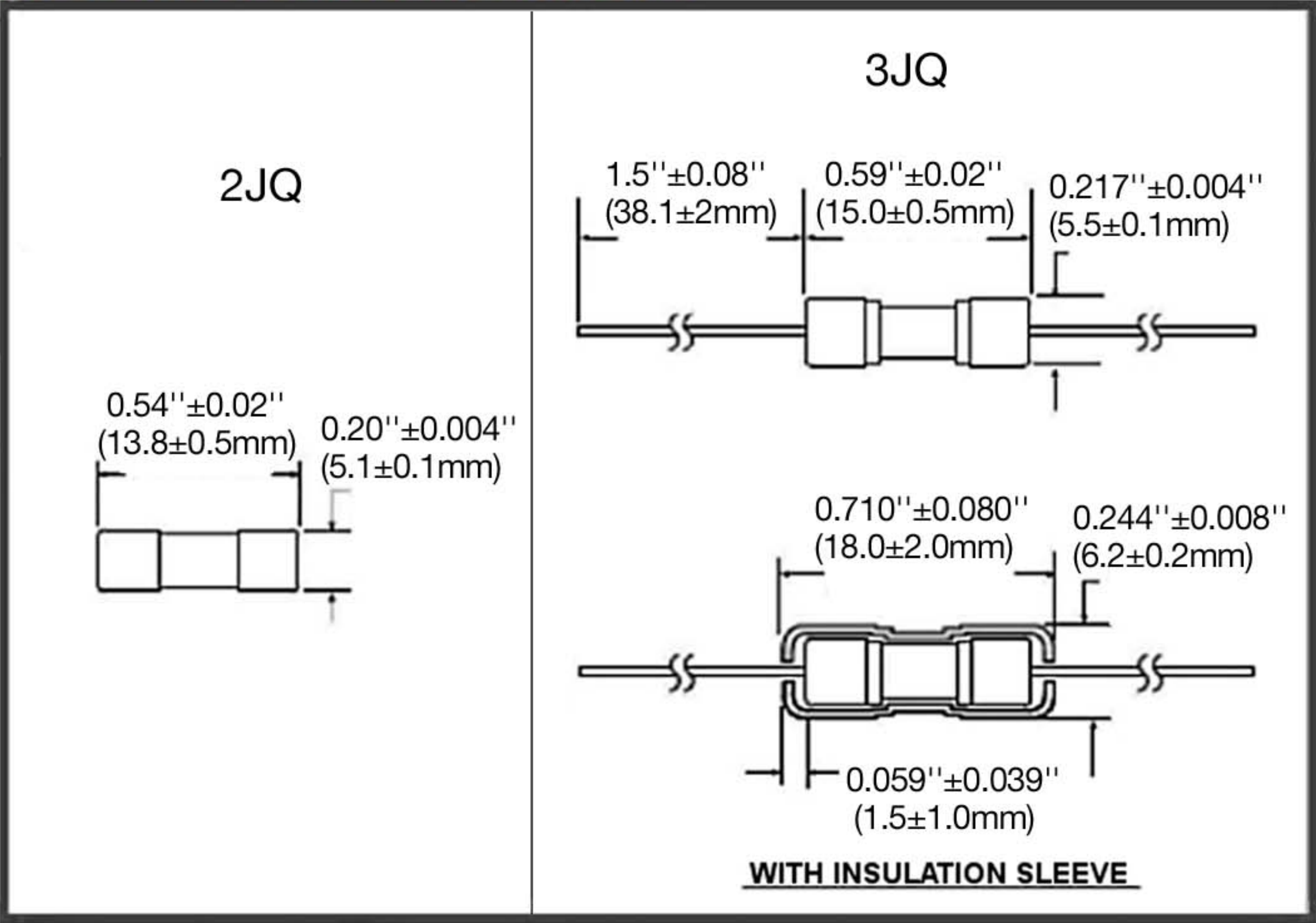
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### Fuse FGNO Explanation 06XX X [XXXX] X XX, [XXXX]=Ampere Rating

| Fraction | Decimal | Milliamps | Bel FGNO[XXXX] | Fraction | Decimal | Amps | Bel FGNO[XXXX] |
|----------|---------|-----------|----------------|----------|---------|------|----------------|
| 1/32     | 0.032   | 32        | 0032           |          | 1.0     | 1    | 1000           |
| 1/25     | .040    | 40        | 0040           | 1-1/4    | 1.25    | 1.25 | 1250           |
| 1/20     | .050    | 50        | 0050           | 1-1/2    | 1.50    | 1.5  | 1500           |
| 1/16     | .063    | 63        | 0063           |          | 1.60    | 1.6  | 1600           |
| 8/100    | .080    | 80        | 0080           |          | 2.0     | 2    | 2000           |
| 1/10     | .100    | 100       | 0100           | 2-1/4    | 2.25    | 2.25 | 2250           |
| 1/8      | .125    | 125       | 0125           | 2-1/2    | 2.5     | 2.5  | 2500           |
| 15/100   | .150    | 150       | 0150           |          | 3.0     | 3    | 3000           |
|          | .160    | 160       | 0160           |          | 3.15    | 3.15 | 3150           |
| 2/10     | .200    | 200       | 0200           | 3-1/2    | 3.5     | 3.5  | 3500           |
| 1/4      | .250    | 250       | 0250           |          | 4.0     | 4    | 4000           |
| 3/10     | .300    | 300       | 0300           |          | 5.0     | 5    | 5000           |
|          | .315    | 315       | 0315           |          | 6.0     | 6    | 6000           |
| 3/8      | .375    | 375       | 0375           |          | 6.3     | 6.3  | 6300           |
| 4/10     | .400    | 400       | 0400           |          | 7.0     | 7    | 7000           |
| 1/2      | .500    | 500       | 0500           | 7-1/2    | 7.5     | 7.5  | 7500           |
| 6/10     | .600    | 600       | 0600           |          | 8.0     | 8    | 8000           |
|          | .630    | 630       | 0630           |          |         | 10   | 9100           |
| 7/10     | .700    | 700       | 0700           |          |         | 12   | 9120           |
| 3/4      | .750    | 750       | 0750           |          |         | 15   | 9150           |
| 8/10     | .800    | 800       | 0800           |          |         | 20   | 9200           |
|          |         |           |                |          |         | 25   | 9250           |
|          |         |           |                |          |         | 30   | 9300           |

### Mechanical Dimensions



\*Diameter lead 0.032" for all ratings

### Packaging

| Packaging Option                               | Packaging Specification | Quantity | Packaging Code | Inside Tape Spacing |
|------------------------------------------------|-------------------------|----------|----------------|---------------------|
| Bulk(bag)                                      | N/A                     | 2000     | 01             | N/A                 |
| Bulk (Pigtail Type)                            | N/A                     | 1000     | 11             | N/A                 |
| Bulk (Pigtail Type) with Insulation Sleeve     | N/A                     | 1000     | 41             | N/A                 |
| Tape & Reel, 10mm Pitch                        | EIA-296-F               | 1500     | 12             | 53                  |
| Tape & Reel with Insulation Sleeve, 10mm Pitch | EIA-296-F               | 1500     | 42             | 53                  |

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### Ordering Information

0657 R XXXX - X X

FUSE TYPE \_\_\_\_\_

0657

R = RoHS Compliant \_\_\_\_\_

AMPERE RATING \_\_\_\_\_

Refer to fuse FGNO explanation table

MECHANICAL CODE \_\_\_\_\_

0 = 2JQ, Cartridge

1 = 3JQ, Pigtail

4 = 3JQ with VW Sleeve

PACKAGING CODE \_\_\_\_\_

1 = 2JQ Cartridge, 2K / Box

1 = 3JQ Pigtail, Bulk 1K / Box

2 = 3JQ Pigtail, T&R, 1500 / Reel



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