

RoHS

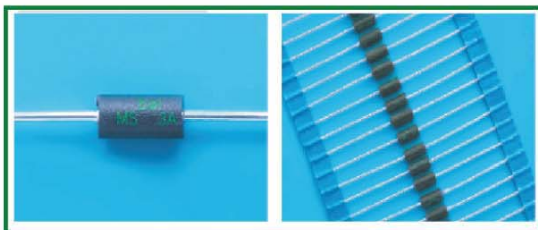
bel

MS Apr2013D

Type MS
Slow Blow Micro Fuse

3 X 7 mm Size
RoHS Compliant

HF MS Series Fuse



Features

- Slow Blow Fuse
- Small size 3 x7 mm
- Wide range of current rating from 100mA to 15A
- Wide operating temperature range
- RoHS compliant
- Halogen Free

Applications

- Notebook
- LCD monitor
- PC computer
- Office electronic equipment
- Industrial equipment
- Medical equipment
- POE, POE+
- LCD / LED monitor
- Power supply
- LCD / LED TV

HALOGEN FREE = **HF**

Electrical Characteristics (UL / CSA /STD.248-14)

| Testing current | Blow Time | |
|-----------------|-----------|---------|
| | Minimum | Maximum |
| 100% | 4 Hrs. | N/A |
| 200% | N/A | 30 Sec |

Safety Agency Approvals

| SAFETY AGENCY | SAFETY AGENCY CERTIFICATE | AMPERE RANGE / VOLT @ I.R.ABILITY |
|---------------|---------------------------|-----------------------------------|
| | LR39772 | 250mA - 7A / 125V @50A AC;300A DC |
| | E20624 | |
| | | |

Specifications Subject to change without notice.

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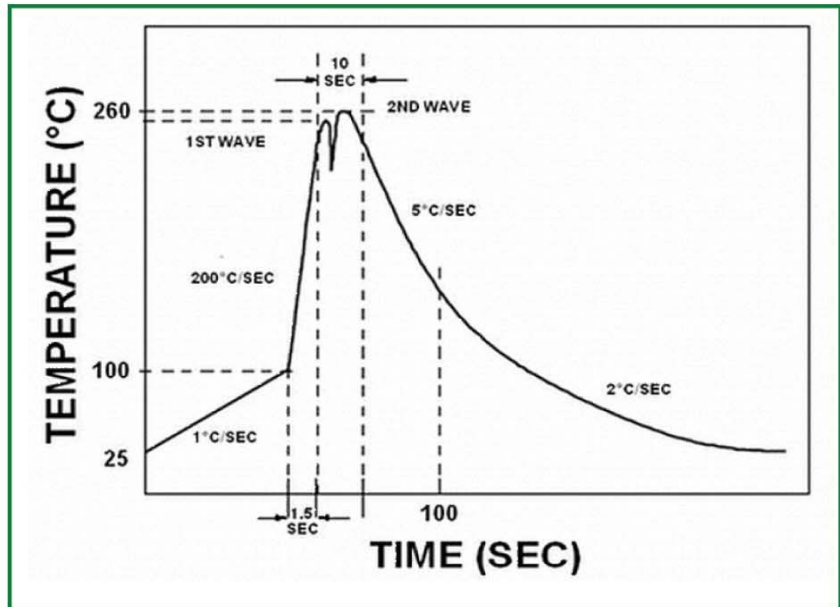
Electrical Specifications

| Catalog Number | Ampere Rating | Typical Cold Resistance (ohm) | Volt-drop @100% In (volt) Max. | Max. Voltage Rating (V) | Interrupting Rating | Melting I ² T <10 m Sec (A ² Sec) | Melting I ² T @ 10 In (A ² Sec) | Maximum Power Dissipation (W) | Agency Approvals | | |
|----------------|---------------|-------------------------------|--------------------------------|-------------------------|--------------------------------------|---|---|-------------------------------|------------------|-------|----|
| | | | | | | | | | SP | UL US | CE |
| MS 250 | 250mA | 3.20 | 2.30 | 125 | 250mA - 7A / 125V @50A AC;300A DC | 0.047 | 0.042 | 0.80 | Y | Y | Y |
| MS 300 | 300mA | 2.44 | 2.10 | 125 | | 0.063 | 0.056 | 0.82 | Y | Y | Y |
| MS 375 | 375mA | 1.66 | 2.00 | 125 | | 0.111 | 0.101 | 0.85 | Y | Y | Y |
| MS 500 | 500mA | 0.99 | 1.80 | 125 | | 0.20 | 0.18 | 0.88 | Y | Y | Y |
| MS 750 | 750mA | 0.550 | 1.40 | 125 | | 0.46 | 0.44 | 0.94 | Y | Y | Y |
| MS 1 | 1 A | 0.338 | 1.30 | 125 | | 0.81 | 0.78 | 0.98 | Y | Y | Y |
| MS 1.25 | 1.25 A | 0.259 | 1.30 | 125 | | 1.44 | 1.41 | 1.01 | Y | Y | Y |
| MS 1.5 | 1.5 A | 0.172 | 1.00 | 125 | | 1.9 | 1.9 | 1.03 | Y | Y | Y |
| MS 2 | 2 A | 0.105 | 0.70 | 125 | | 3.4 | 3.4 | 1.08 | Y | Y | Y |
| MS 2.5 | 2.5 A | 0.073 | 0.66 | 125 | | 6.0 | 6.1 | 1.12 | Y | Y | Y |
| MS 3 | 3 A | 0.056 | 0.53 | 125 | | 8.0 | 8.1 | 1.14 | Y | Y | Y |
| MS 3.5 | 3.5 A | 0.046 | 0.46 | 125 | | 10.6 | 10.9 | 1.17 | Y | Y | Y |
| MS 4 | 4 A | 0.041 | 0.42 | 125 | | 14 | 15 | 1.19 | Y | Y | Y |
| MS 5 | 5 A | 0.020 | 0.26 | 125 | | 33 | 35 | 1.26 | Y | Y | Y |
| MS 7 | 7 A | 0.011 | 0.20 | 125 | | 59 | 63 | 1.31 | Y | Y | Y |

Consult manufacturer for other ratings

Soldering Parameters

| 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 T _p | 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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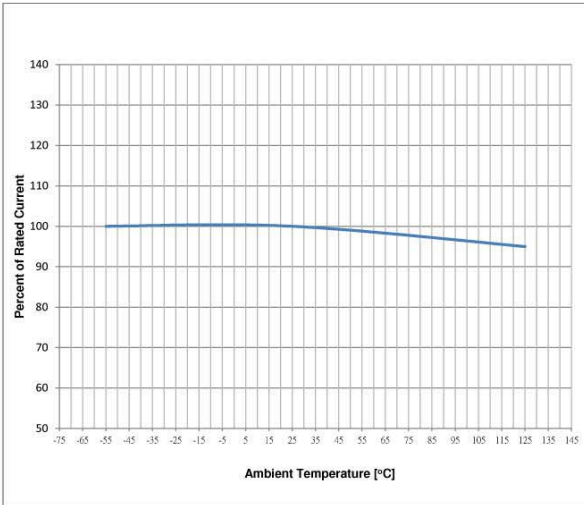
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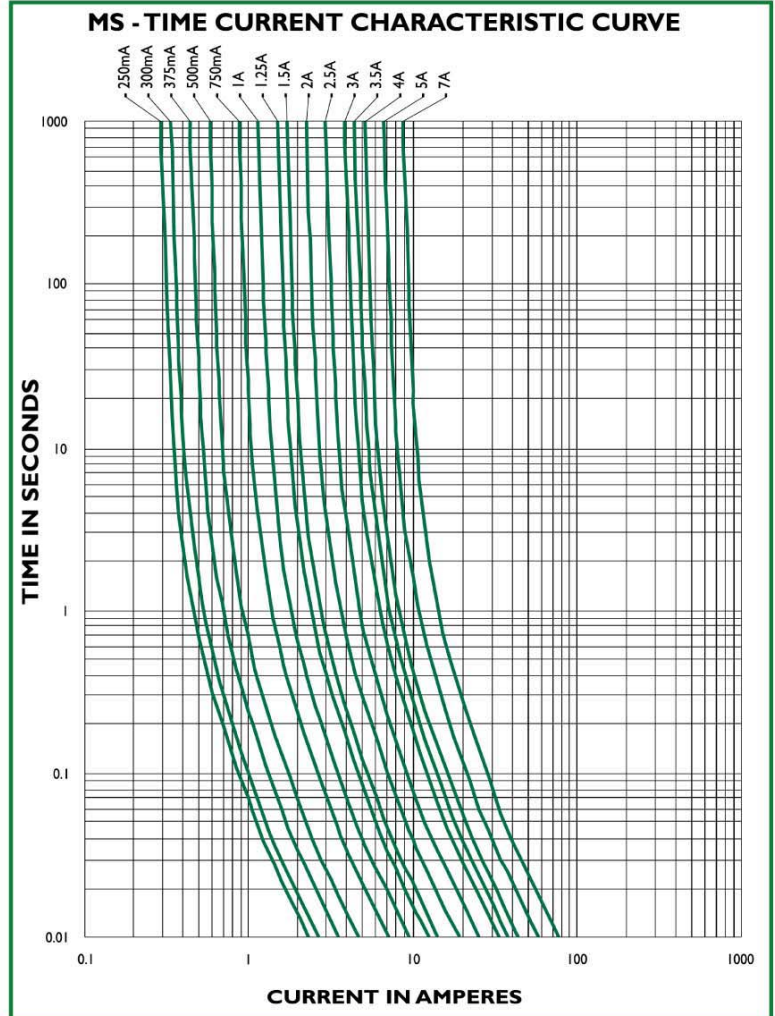
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MS Apr2013C

Temperature Derating Curve



Average Time Current Curve



Environmental Specifications

| | |
|----------------------------------|--|
| Shock Resistance | MIL-STD-202G, Method 213B, Test Condition I (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°C, 10 sec) |
| Thermal Shock | MIL-STD-202G, Method 107G, Test Condition B (-65°C to +125°C). |
| Operating Temperature | -55°C to +125°C |
| Moisture Resistance | MIL-STD-202F, Method 106G |

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Physical Specifications

| | |
|------------------|---|
| Materials | Body : Molded with UL Recognized epoxy component plastic,UL 94-V0 |
| | Lead Wire: Matte tin plated copper |
| Marking | On Fuse: |
| | "bel", "MS", "Current Rating", "125V" printed in green color |
| | On label: |
| | "bel", "MS", "Current Rating", "Voltage Rating", "Interrupting Rating", "Appropriate Safety Logos" and " " "(China RoHS compliant). |

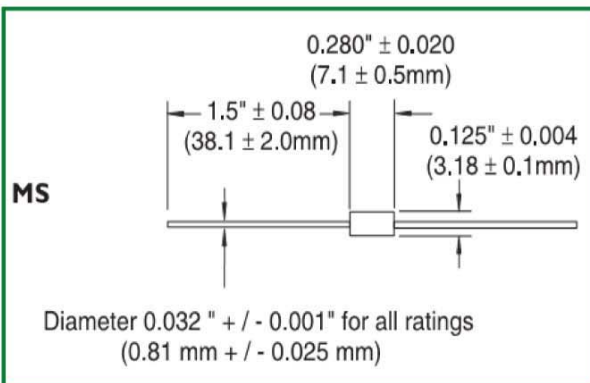
Fuse FGNO Explanation

06XX-XXXXX-XX, [XXXX]=Ampere Rating

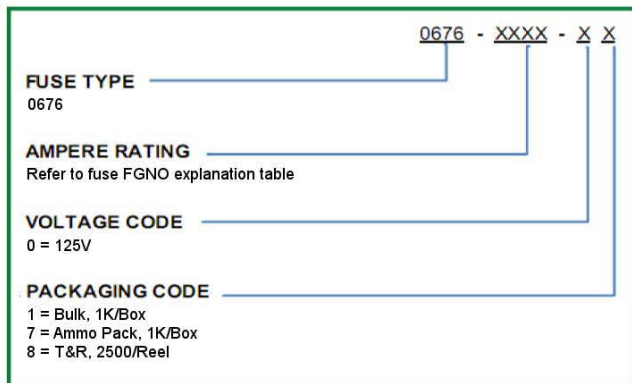
| Fraction | Decimal | Milliamps | Bel FGNO[XXXX] |
|----------|---------|-----------|----------------|
| 1/32 | 0.032 | 32 | 0032 |
| 1/25 | .040 | 40 | 0040 |
| 1/20 | .050 | 50 | 0050 |
| 1/16 | .063 | 63 | 0063 |
| 8/100 | .080 | 80 | 0080 |
| 1/10 | .100 | 100 | 0100 |
| 1/8 | .125 | 125 | 0125 |
| 15/100 | .150 | 150 | 0150 |
| | .160 | 160 | 0160 |
| 2/10 | .200 | 200 | 0200 |
| 1/4 | .250 | 250 | 0250 |
| 3/10 | .300 | 300 | 0300 |
| | .315 | 315 | 0315 |
| 3/8 | .375 | 375 | 0375 |
| 4/10 | .400 | 400 | 0400 |
| 1/2 | .500 | 500 | 0500 |
| 6/10 | .600 | 600 | 0600 |
| | .630 | 630 | 0630 |
| 7/10 | .700 | 700 | 0700 |
| 3/4 | .750 | 750 | 0750 |
| 8/10 | .800 | 800 | 0800 |

| 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 |
| 2-1/4 | 2.25 | 2.25 | 2250 |
| 2-1/2 | 2.5 | 2.5 | 2500 |
| | 3.0 | 3 | 3000 |
| | 3.15 | 3.15 | 3150 |
| 3-1/2 | 3.5 | 3.5 | 3500 |
| | 4.0 | 4 | 4000 |
| | 5.0 | 5 | 5000 |
| | 6.0 | 6 | 6000 |
| | 6.3 | 6.3 | 6300 |
| | 7.0 | 7 | 7000 |
| 7-1/2 | 7.5 | 7.5 | 7500 |
| | 8.0 | 8 | 8000 |
| | | 10 | 9100 |
| | | 12 | 9120 |
| | | 15 | 9150 |
| | | 20 | 9200 |
| | | 25 | 9250 |
| | | 30 | 9300 |

Mechanical Dimensions



Ordering Information



Packaging

| Packaging Option | Packaging Specification | Quantity | Packaging Code | Inside Tape Spacing |
|-------------------------|-------------------------|----------|----------------|---------------------|
| Bulk | N/A | 1000 | 01 | N/A |
| Bulk (Amon Package) | N/A | 1000 | 07 | N/A |
| Tape & Reel, 5 mm Pitch | EIA-296-F | 2500 | 08 | 53 |

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