

POWR-SPEED® Fuse

L60QS Series High-Speed Cylindrical

Semiconductor Fuses • 600 V Ac/Dc • Class aR - 40 A

IEC c  CE  REACH HF



Description

The Littelfuse QS series of High-speed Semiconductor Fuses is designed to safeguard power semiconductor devices. These cylindrical-shaped, 10x38 mm fuses with higher current ratings, are fast-acting and extremely current limiting. They provide balanced performance and reliable short-circuit protection to extend product longevity while lowering potentially damaging heat energy to the device being protected.

Features & Benefits

| FEATURES | BENEFITS |
|--|---|
| High ac and dc interrupting rating | Provides fast and reliable short circuit protection |
| Fast acting | Responds quickly to a range of fault currents to safeguard device |
| Excellent cycling capability to handle on/off switching | Increases product reliability and longevity |
| Compact case size with common dimensions | Saves space and can be used in a variety of applications |
| Compliant with UL and IEC standards | Supports global market applications and streamlines inventory |

Applications

- Ac-dc power converters
- Control circuits
- EV charging stations
- Power distribution units (PDUs)
- Power supplies
- Variable speed drives
- Uninterruptible power supply (UPS)

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Specifications

| | |
|------------------------------------|--|
| Voltage Rating | 600 V Ac/600 V Dc |
| Amperage Rating | 40 A |
| Interrupting Rating | 200 kA (Ac), 100 kA (Dc) |
| Minimum Breaking Capacity | 400% |
| Operating Characteristics | Fast-acting, partial range (aR) |
| Time Constant | ≤ 10 ms |
| Operating Temperature Range | -55 °C to +125 °C (-67 °F to +257 °F) |
| Materials | Body – Melamine End caps – Copper alloy |
| Applicable Standards | UL 248-13, IEC 60269-4 |
| Mounting | Cartridge and PCB mount |
| Country of Origin | Mexico |

Certification & Compliance

| | |
|---------------------|---|
| cURus | cURus Recognized (File: E71611) |
| CE | Declaration of Conformity (File: EU_DOC-L60QS_240108) |
| RoHS | RoHS 2 Directive 2011/65/EU; Directive (EU) 2015/863 |
| REACH | Regulation (EC) No 1907/2006 |
| Halogen Free | Yes |

Ordering Information (Ferrule Version)

| AMPERE RATING | CATALOG NUMBER | PRODUCT MARKING | PACKING QUANTITY | ORDERING NUMBER | UPC CODE |
|---------------|----------------|-----------------|------------------|-----------------|-------------|
| 40 | L60QS040 | L60QS 40A | 10 | L60QS040.T | 07945837064 |

Ordering Information (PCB Version)

| AMPERE RATING | CATALOG NUMBER | PRODUCT MARKING | PACKING QUANTITY | ORDERING NUMBER | UPC CODE |
|---------------|----------------|-----------------|------------------|-----------------|-------------|
| 40 | L60QS040R | L60QS 40A-R | 100 | L60QS040.HXR | 07945837103 |

Electrical Specifications

| AMPERAGE RATING | VOLTAGE RATING | | INTERRUPTING RATING | | WATTS LOSS AT 100 % RATED CURRENT (W) | AVERAGE MELTING I ² T (A ² S) | TOTAL CLEARING I ² T (A ² S) 200 KA @ 600 V AC | TOTAL CLEARING I ² T (A ² S) 100 KA @ 600 V DC | NOMINAL COLD RESISTANCE (OHMS) |
|-----------------|----------------|-----|---------------------|--------|---------------------------------------|---|--|--|--------------------------------|
| | AC | DC | AC | DC | | | | | |
| 40 | 600 | 600 | 200 kA | 100 kA | 6 | 277 | 1770 | 1080 | 0.0025 |

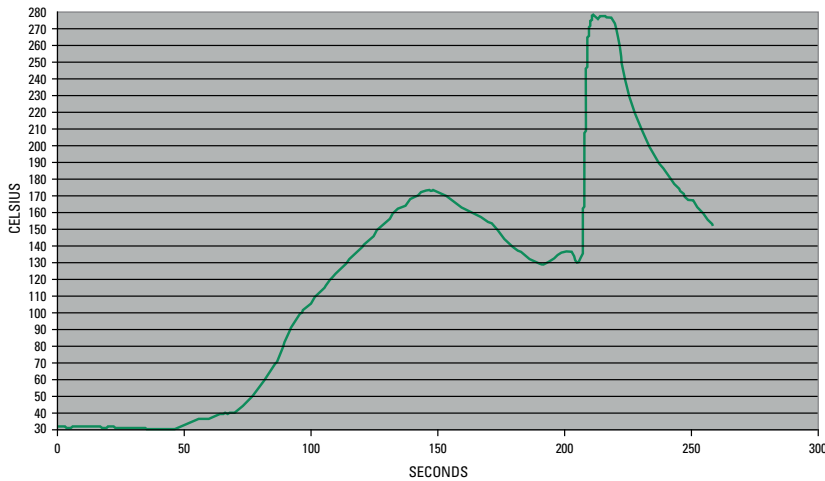
POWR-SPEED® Fuse

L60QS Series High-Speed Cylindrical

Recommended Process Parameters

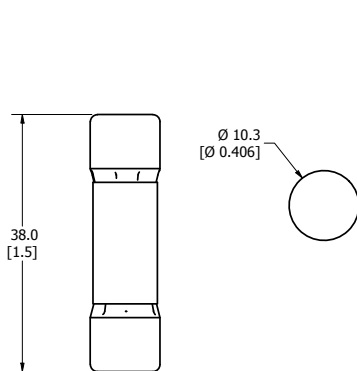
| WAVE PARAMETER | LEAD FREE RECOMMENDATION |
|------------------------|-----------------------------------|
| Preheat: | (Typical industry recommendation) |
| Temperature minimum: | 130 °C |
| Temperature maximum: | – |
| Pre-heat time | 75 seconds maximum |
| Solder pot temperature | 280 °C maximum |
| Solder dwell time | 270 °C for 8 seconds maximum |
| Complete cycle time | 250 seconds maximum |

Soldering Parameters

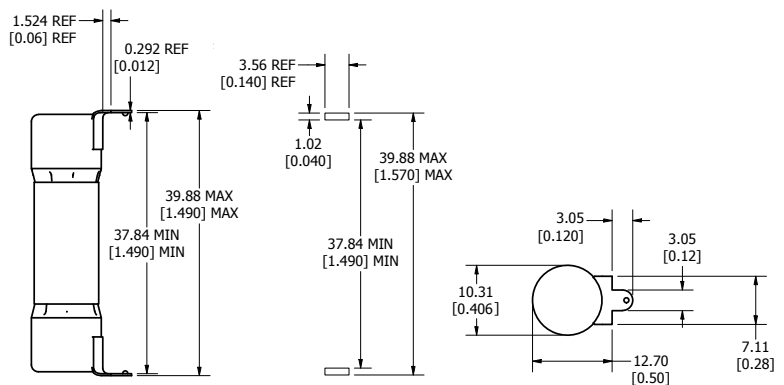


Dimensions in Millimeters (Inches)

FERRULE VERSION



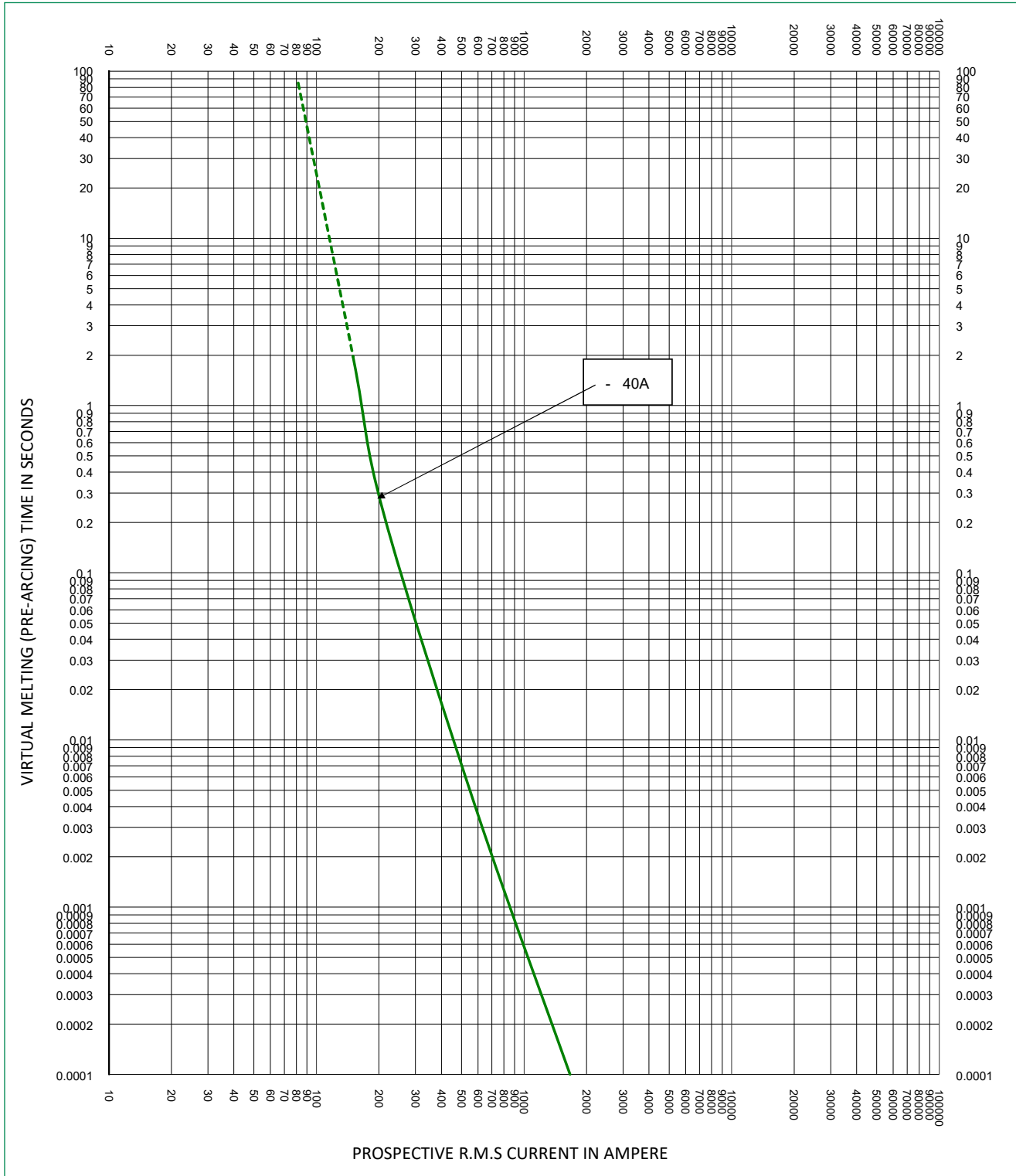
PCB VERSION



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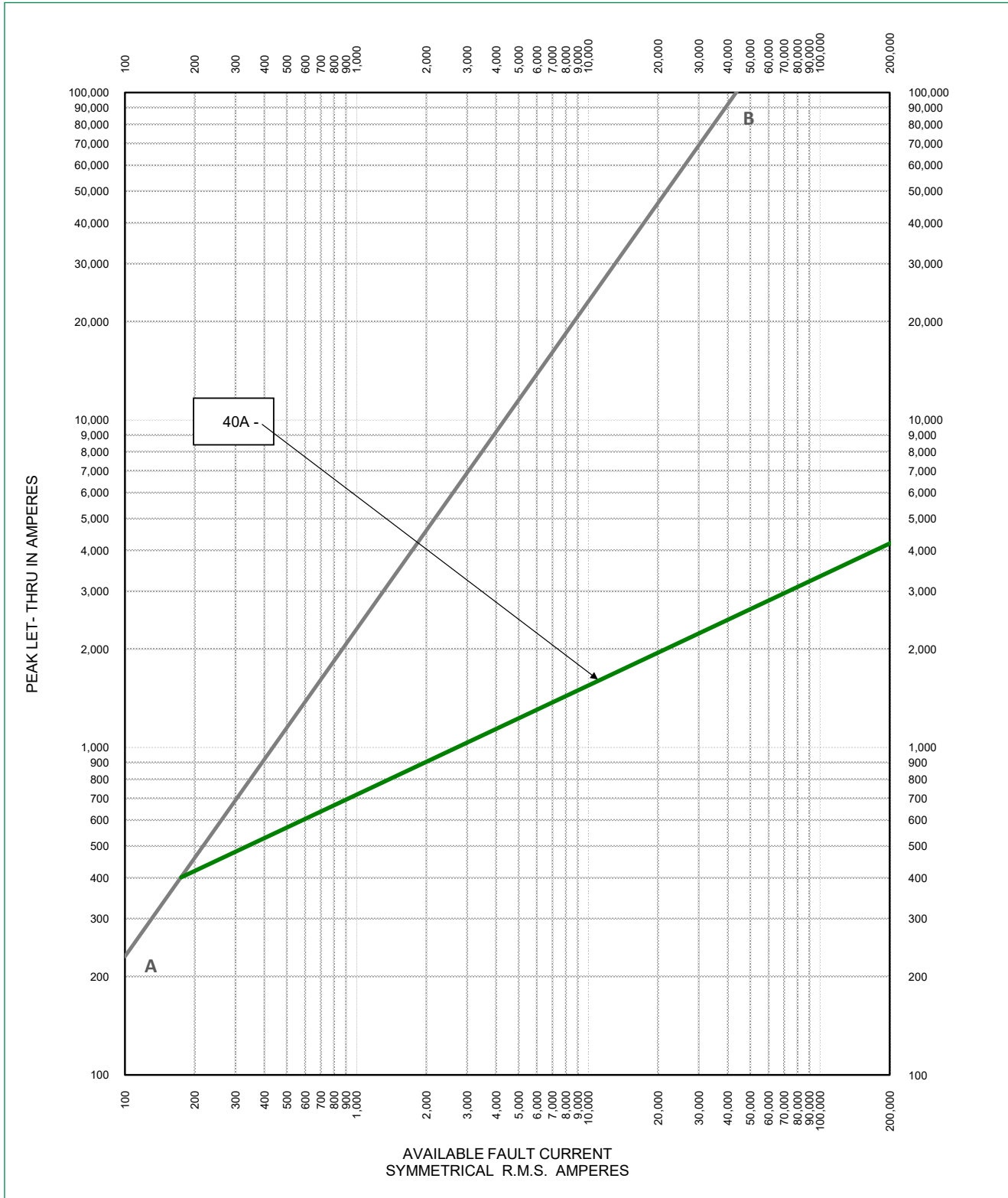
Time Current Curve (40 A)



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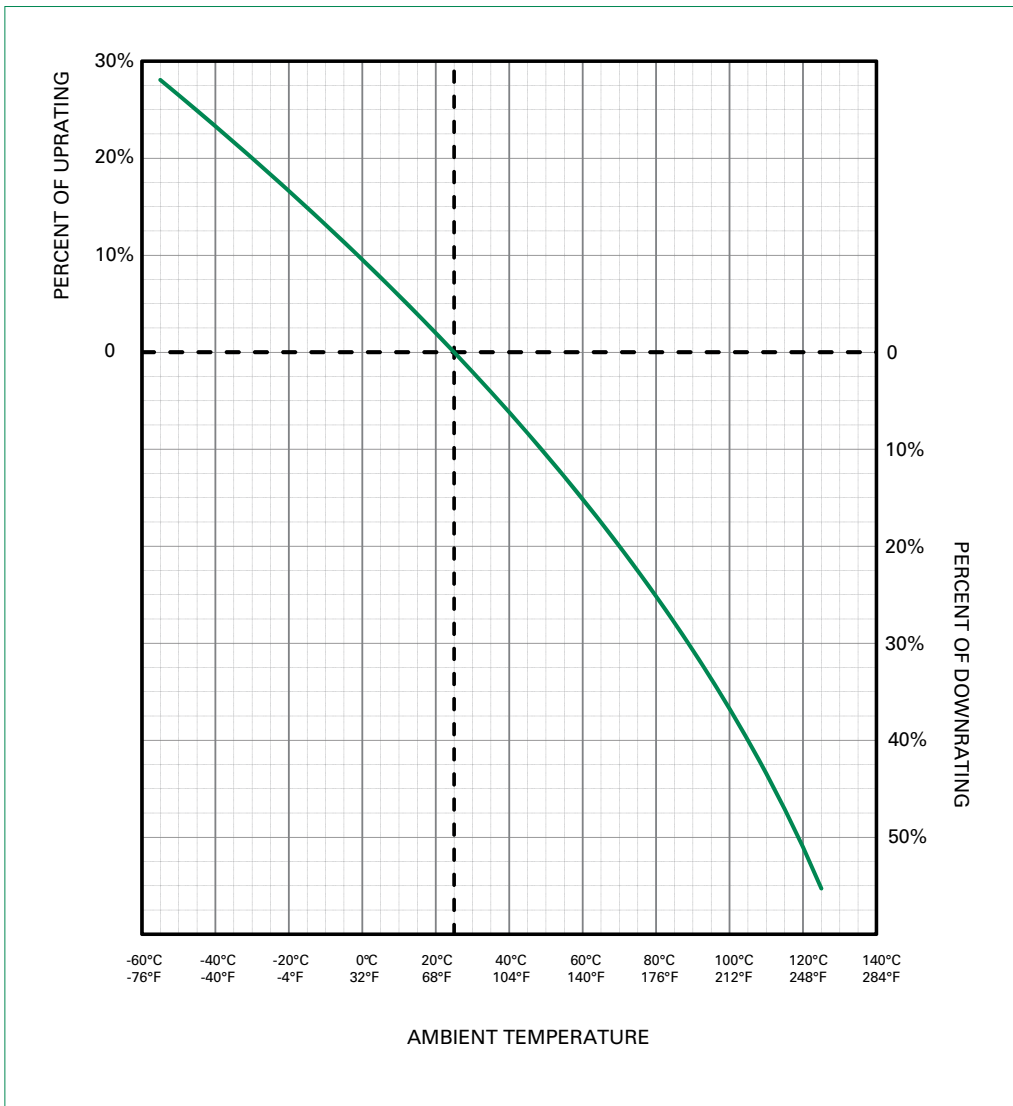
Peak Let-Through Curve



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Temperature De-rating Curve (Temperature of Air Immediately Surrounding Fuse)



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