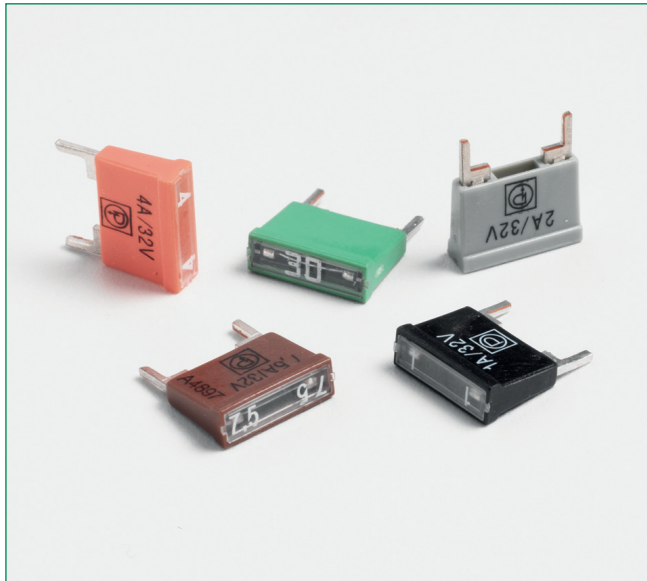


## FP1 MINI® STYLE PCB FUSE RATED 32V



### Specifications

|                      |   |
|----------------------|---|
| Insulating body:     | Out of thermoplastic (UL 94-V0, heat-resistant)                               |
| Cover:               | Out of thermoplastic (V0, transparent),<br>Visible melting-element            |
| Terminals:           | Shunt: Red, not transparent<br>Soldering pins<br>Copper alloy, gal. Sn plated |
| Interrupting Rating: | 1000 A @ 32 VDC   |
| Complies with:       | UL 248 Special Purpose Fuses  |
| cULus Recognized:    | File No. E10480   |

### Ordering Information

| Part Number   | Package Size |
|---------------|--------------|
| 168.6585.xxx2 | 1500         |
| 168.6585.xxx6 | 100          |

### Description

The FP1 is a MINI® style fuse for direct through-hole pcb soldering. For wave solder application the use of LF 0874 wave solder profile (see next page) is recommended. The FP1 has similar performance characteristics as the standard FK1 fuse.

### Time-Current Characteristics

| % of Rating | Opening Time Min / Max (s) |
|-------------|----------------------------|
| 110         | 360,000 s / -              |
| 135         | 0.750 s / 1,800 s          |
| 200         | 0.150 s / 5 s              |
| 350         | 0.040 s / 0.500 s          |
| 600         | 0.020 s / 0.100 s          |

### Ratings

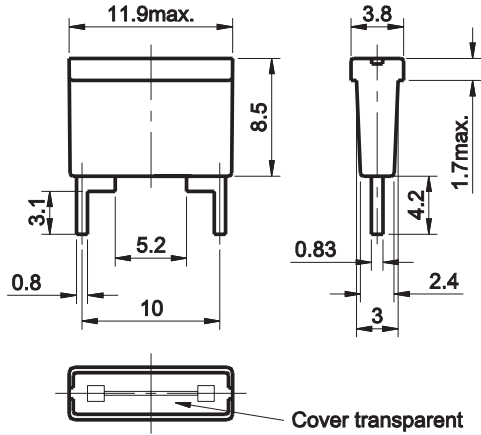
| Part Number   | Current Rating | Housing Color | Typ. Voltage Drop<br>Littelfuse max. | Cold Resistance | I <sup>2</sup> t       |
|---------------|----------------|---------------|--------------------------------------|-----------------|------------------------|
| 168.6585.410_ | 1A             | Black         | 135 mV                               | 100 mΩ          | 0.83 A <sup>2</sup> s  |
| 168.6585.420_ | 2A             | Grey          | 110 mV                               | 43.0 mΩ         | 3.31 A <sup>2</sup> s  |
| 168.6585.430_ | 3A             | Purple        | 110 mV                               | 27.0 mΩ         | 7.45 A <sup>2</sup> s  |
| 168.6585.440_ | 4A             | Pink          | 110 mV                               | 21.3 mΩ         | 16.7 A <sup>2</sup> s  |
| 168.6585.450_ | 5A             | Orange        | 105 mV                               | 16.2 mΩ         | 19.8 A <sup>2</sup> s  |
| 168.6585.475_ | 7.5A           | Brown         | 100 mV                               | 9.70 mΩ         | 44.5 A <sup>2</sup> s  |
| 168.6585.510_ | 10A            | Red           | 110 mV                               | 7.40 mΩ         | 79.2 A <sup>2</sup> s  |
| 168.6585.515_ | 15A            | Blue          | 105 mV                               | 4.50 mΩ         | 178 A <sup>2</sup> s   |
| 168.6585.520_ | 20A*           | Yellow        | 100 mV                               | 3.10 mΩ         | 331 A <sup>2</sup> s   |
| 168.6585.525_ | 25A*           | White         | 105 mV                               | 2.60 mΩ         | 653 A <sup>2</sup> s   |
| 168.6585.530_ | 30A*           | Green         | 105 mV                               | 1.90 mΩ         | 1,264 A <sup>2</sup> s |
| 160.6585.0002 | Shunt*         | White         | 60 mV                                | 1.35 mΩ         | 1,800 A <sup>2</sup> s |

\*No UL Certification Available

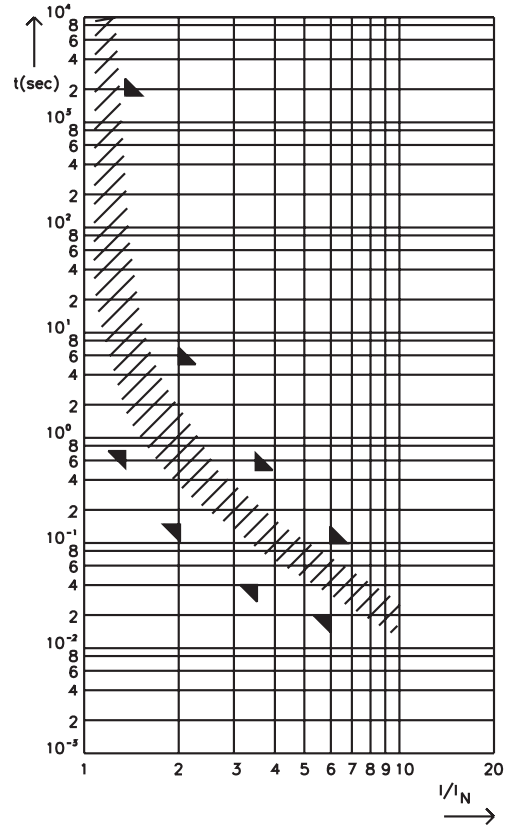
**FP1 MINI® STYLE PCB FUSE RATED 32V**

**Dimensions**

Dimensions in mm

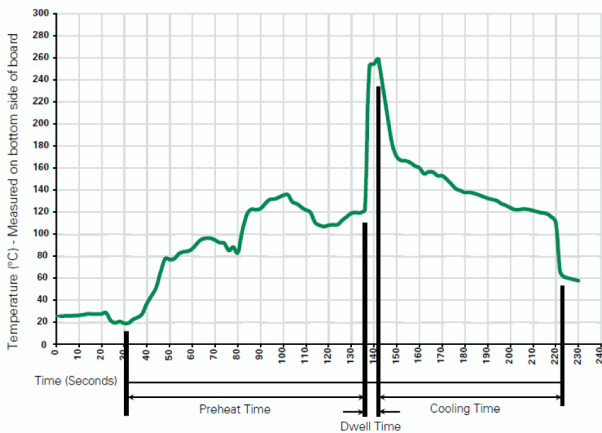


**Pre-Arcing Time-Limits**



FI = 1.33 (max. operating current:  $0.75 \times I_{rat}$  at 23°C)

**Soldering Parameters - Wave Soldering**



**Recommended Process Parameters:**

| Wave Parameter  | Lead-Free Recommendation |
|---|--------------------------|
| <b>Preheat:</b><br>(Depends on Flux Activation Temperature) (Typical Industry Recommendation) |                          |
| Temperature Minimum:  | 100° C                   |
| Temperature Maximum:  | 150° C                   |
| Preheat Time:   | 60-180 seconds           |
| Solder Pot Temperature:   | 260° C Maximum           |
| Solder Dwell Time:  | 2-5 seconds              |

**Recommended Hand-Solder Parameters:**

Solder Iron Temperature: 350° C +/- 5°C  
Heating Time: 5 seconds max.

**Note: These devices are not recommended for IR or Convection Reflow process.**