Axial Lead & Cartridge Fuses
PICO® II > Very Fast-Acting Fuse > 251/253 Series

251/253 Series, PICO® II Very Fast-Acting Fuse

Description
The PICO® II Very Fast-Acting Fuse is designed to meet an extensive array of performance characteristics in a space-saving subminiature package.

Features
- Very fast-acting
- Small size
- Wide current rating range (0.062A - 15A)
- Halogen-free available
- Wide operating temperature range
- Low temperature re-rating

Agency Approvals

<table>
<thead>
<tr>
<th>Agency</th>
<th>Agency File Number</th>
<th>Ampere Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL</td>
<td>E10480</td>
<td>0.062A - 15A</td>
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<tr>
<td>CE</td>
<td>29862</td>
<td>0.062A - 15A</td>
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<tr>
<td>PSE</td>
<td>PSE_NBK200416-JP1021</td>
<td>1A - 5A</td>
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<tr>
<td>J50158379</td>
<td>0.500A - 10A</td>
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<tr>
<td>FM10</td>
<td>N/A</td>
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<tr>
<td>CCC</td>
<td>2009010207366577</td>
<td>0.500A, 1A, 2A, 2.5A, 3A, 4A, 5A</td>
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</table>

Applications
Secondary protection for space constrained applications
- Flat-panel display TV
- LCD monitor
- LCD backlight inverter
- Office machines
- Power supply
- Audio/Video system
- Lighting system
- Medical equipment

Electrical Characteristics for Series

<table>
<thead>
<tr>
<th>% of Ampere Rating</th>
<th>Ampere Rating</th>
<th>Opening Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>0.062A - 15A</td>
<td>4 Hours, Min.</td>
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<tr>
<td>200%</td>
<td>0.062A - 7A</td>
<td>1 Second, Max.</td>
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<tr>
<td></td>
<td>10A</td>
<td>3 Seconds, Max.</td>
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<td></td>
<td>12 - 15A</td>
<td>10 Seconds, Max.</td>
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<tr>
<td>275%</td>
<td>0.500A, 1A, 2A, 2.5A, 3A, 4A, 5A, 7A, 10A</td>
<td>300 msecs., Max.</td>
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<td>400%</td>
<td>0.5A, 1A, 2A, 2.5A, 3A, 4A, 5A, 7A, 10A</td>
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<td>1000%</td>
<td>0.500A, 1A, 2A, 2.5A, 3A, 4A, 5A, 7A, 10A</td>
<td>4 msecs., Max.</td>
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</table>

Note: See Electrical Specifications by Item table for specific approved ratings.

Additional Information

Datasheet 251 Series
Resources 251 Series
Samples 251 Series

Datasheet 253 Series
Resources 253 Series
Samples 253 Series

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Application testing is strongly recommended. Specifications are subject to change without notice.
Revised: 05/31/18
## Electrical Specifications by Item

<table>
<thead>
<tr>
<th>Ampere Rating (A)</th>
<th>Amp Code</th>
<th>Ordering Number (Std.)</th>
<th>Ordering Number (Mil.)</th>
<th>Max Voltage Rating (V)</th>
<th>Interrupting Rating</th>
<th>Nominal Cold Resistance (Ohms)</th>
<th>Nominal Melting I²t (A² sec)</th>
<th>Nom Voltage Drop (V)</th>
<th>Agency Approvals</th>
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<td>.062</td>
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</tbody>
</table>

*Note: Higher ampere ratings are available. Please contact Littelfuse Technical Support or your Littelfuse products representative for assistance.*
Axial Lead & Cartridge Fuses
PICO® ll > Very Fast-Acting Fuse > 251/253 Series

Temperature Re-rating Curve

Average Time Current Curves

Soldering Parameters

Recommended Process Parameters:

<table>
<thead>
<tr>
<th>Wave Parameter</th>
<th>Lead-Free Recommendation for 251 Series only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preheat:</td>
<td>(Depends on Flux Activation Temperature)</td>
</tr>
<tr>
<td>Temperature Minimum:</td>
<td>100°C</td>
</tr>
<tr>
<td>Temperature Maximum:</td>
<td>150°C</td>
</tr>
<tr>
<td>Preheat Time:</td>
<td>60-180 seconds</td>
</tr>
<tr>
<td>Solder Pot Temperature:</td>
<td>260°C Maximum</td>
</tr>
<tr>
<td>Solder Dwell Time:</td>
<td>2-5 seconds</td>
</tr>
</tbody>
</table>

Recommended Hand Soldering 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

Note:
1. Re-rating depicted in this curve is in addition to the standard derating of 25% for continuous operation.
Product Characteristics

Materials
Encapsulated, Epoxy-coated Body
251 Series: Pure tin-coated copper wire leads
253 Series: Solder-coated copper wire leads

Solderability
MIL-STD-202, Method 208

Lead Pull Force
MIL-STD-202, Method 211, Test Condition A
(Will withstand a 7lbs. axial pull test)

Fuses To MIL SPEC
For fuses to MIL-PRF-23419, FM10 change the series number from 251 to 253

Operating Temperature
–55°C to +125°C (Consider re-rating)

Vibration
MIL-STD-202, Method 201 (10–55 Hz); Method 204, Test Condition C
(55–2000 Hz at 10 G’s Peak)

Shock
MIL-STD-202, Method 213, Test Condition I
(100 G’s peak for 6 msecs.)

Insulation Resistance
MIL-STD-202, Method 302, Test Condition A
(10,000 ohms minimum at 100 volts)

Moisture Resistance
MIL-STD-202, Method 106

Resistance to Soldering Heat
Withstands 60 seconds above 200°C and up to 260°C, maximum

Flammability Rating
UL 94V–0

Dimensions

251 Series Markings
(T1 lead length)

27.78 (1.094")
5.0 (.197")
Wire Diameter: 0.64 (.025") for 0.062-10 amp, 0.81 (.032") for 12-15 amp

27.78 (1.094")

6.35 (.25") tape

2.80 (1.11") MAX

2.80 (1.11")

6.35 (.25") tape

253 Series Markings
(T3 lead length)

38.1 (1.5")
5.0 (.197")
Wire Diameter: 0.64 (.025") for 0.062-10 amp, 0.81 (.032") for 16 amp

73.0 (2.874")
7.11 (0.28")

38.1 (1.5")

7.11 (0.28")

6.35 (.25") tape

2.61 (1.03") MAX

2.61 (1.03")

6.35 (.25") tape

Part Numbering System

Series
251 = Standard type
253 = Military type

Current Rating
Refer to Amp Code column of Electrical Specifications Table

Quantity
N = 5000
P = 2000
M = 1000
H = 100

Type of Packaging
R = Reel
A = Ammo Pack
X = Loose Pack

Lead Length
The default lead length for Ammo pack and Loose pack is now T1 for 251 series, and remains T3 for 253 series, therefore:
T1 = 52.4mm (2.062")
T2 = 52.4mm (2.062")
T3 = 73mm (2.874")

Option Codes
L = RoHS + HF
(Only applies to 251 Series)

Notes:
1. T1 dimension is defined as the length of the component between the two tapes. The full component length is 62.7mm (2.468”). T1 length is for 251 series only.
2. T3 dimension is defined as the length of the component between the two tapes. The full component length is 83.31mm (3.28”). T3 length is for 253 series only.

Packaging

<table>
<thead>
<tr>
<th>Packaging Option</th>
<th>Packaging Specification</th>
<th>Quantity &amp; Packaging Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>*T1: 52.4mm (2.062&quot;) Tape and Reel</td>
<td>EIA 296</td>
<td>Please refer to available quantities above in “Part Numbering System”</td>
</tr>
<tr>
<td>**T3: 73mm (2.874&quot;) Tape and Reel</td>
<td>EIA 296</td>
<td></td>
</tr>
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</table>

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