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



Web Resources



Download ECAD models, order samples, and find technical recources at www.littelfuse.com/251



Download ECAD models, order samples, and find technical recources at www.littelfuse.com/253

Agency Approvals

Agency	Agency I	Ampere Range			
Agency	253 Series	Ampere nange			
Œ	N/A	N/A	0.062A - 15A		
UK	N/A	N/A	0.062A - 15A		
c 94 0 us	N/A	E10480	0.062A - 15A		
(N/A	29862	0.062A - 15A		
PS	N/A	PSE_NBK200416-JP1021	1A - 5A		
\triangle	N/A	J50158379	0.500A - 10A		
QPL	FM10	N/A	0.062A - 15A		
®	N/A	2020970207000061	0.500A, 1A, 2A, 2.5A, 3A, 4A, 5A		

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

LA (€ HF : \$1) us **(€) △ QPL (**(€)

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 and Benefits

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

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

% of Ampere Rating	Ampere Rating	Opening Time			
100%	0.062A - 15A	4 Hours, Min.			
	0.062A - 7A	1 Second, Max.			
200%	10A	3 Seconds, Max.			
	12 - 15A	10 Seconds, Max.			
275%	0.500A, 1A, 2A, 2.5A, 3A, 4A, 5A	300 msecs., Max.			
400%	0.5A, 1A, 2A, 2.5A, 3A, 4A, 5A	30 msecs., Max.			
1000%	0.500A, 1A, 2A, 2.5A, 3A, 4A, 5A	4 msecs., Max.			



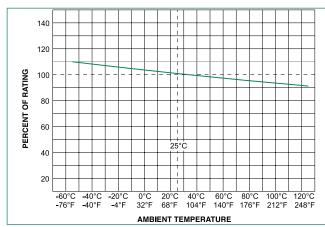
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Electrical Specifications by Item

				Max		Nominal Nom Agency Approvals										
Ampere Rating (A)	Amp Code	Ordering Number (Std.)	Ordering Number (Mil.)	Voltage Rating (V)	Interrupting Rating	Cold Resistance (Ohms)	Nominal Melting I ² t (A ² sec)	Voltage	c PU °us	CA	Œ	(10000000000000	PSE	\(\rightarrow\)	QPL 253 Series Only	@
.062	.062	251.062	253.062	125		7.000	0.000113	1.4	X	Х	X	X	-	-	X	-
.125	.125	251.125	253.125	125		1.700	0.00174	0.285	X	Х	Х	Х	-	-	Х	-
.200	.200	251.200	253.200	125		0.895	0.0048	0.345	X	Х	X	X	-	-	-	-
.250	.250	251.250	253.250	125		0.665	0.0116	0.24	X	Х	Х	Х	-	-	X	-
.375	.375	251.375	253.375	125		0.395	0.0296	0.215	X	Х	Х	Х	-	-	Х	-
.500	.500	251.500	253.500	125		0.302	0.0598	0.2165	X	Х	Х	Х	-	Х	Х	X
.630	.630	251.630		125		0.205	0.08	0.188	X	Х	Х	Х	-	-	-	-
.750	.750	251.750	253.750	125	300 A @	0.175	0.153	0.176	X	Х	Х	Х	-	Х	Х	-
1.00	001.	251001.	253001.	125	125VDC	0.128	0.256	0.194	Х	Χ	Х	Х	Х	Х	Х	X
1.25	1.25	2511.25		125		0.100	0.390	0.2	Х	Χ	X	Χ	Х	-	-	-
1.50	01.5	25101.5	25301.5	125	50A@ 125VAC	0.0823	0.587	0.21	X	Х	Х	X	Х	Х	Х	-
2.00	002.	251002.	253002.	125	IZSVAC	0.0473	0.405	0.141	X	Х	X	Χ	X	X	Х	X
2.50	02.5	25102.5		125		0.0360	0.721	0.132	Х	Χ	Х	X	Х	Х	-	X
3.00	003.	251003.	253003.	125		0.0295	1.19	0.131	X	Х	Х	X	X	Х	Х	X
3.50	03.5	25103.5		125		0.0240	1.58	0.1205	X	Х	Х	Х	X	Х	-	-
4.00	004.	251004.	253004.	125		0.0204	2.45	0.114	X	Х	Х	Х	X	Х	X	X
5.00	005.	251005.	253005.	125		0.0158	4.14	0.11	X	Х	Х	Х	Х	Х	Х	X
7.00	007.	251007.	253007.	125		0.0107	10.4	0.102	X	Х	Х	Х	-	Х	Х	-
10.0	010.	251010.	253010.	125		0.0072	25.5	0.1	X	X	Х	Х	-	Х	Х	-
12.0	012.	251012.		32	300A@32VDC	0.0059	45.2	0.0878	X	Х	Х	Х	-	-	-	-
15.0	015.	251015.	253015.	32	& 50A@32VAC	0.00446	68.8	0.071	х	X	X	X	-	-	Х	-

Note: Higher ampere ratings are available. Please contact Littelfuse Technical Support or your Littelfuse products representative for assistance.

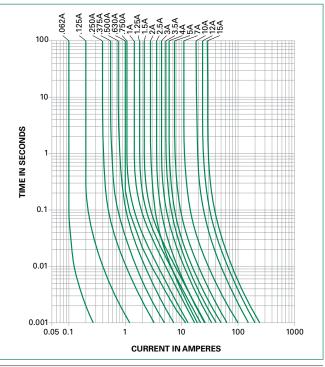
Temperature Re-rating Curve



Note:

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

Average Time Current Curves





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

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)

Soldering Parameters

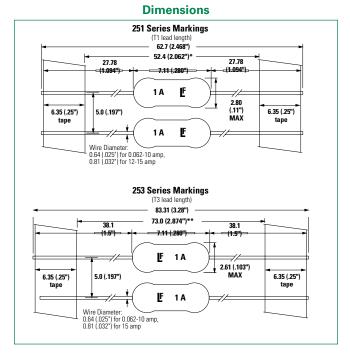
Recommended Process Parameters:

Wave Parameter	Lead-Free Recommendation for 251 Series only			
Preheat: (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 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



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 (After Opening):	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		

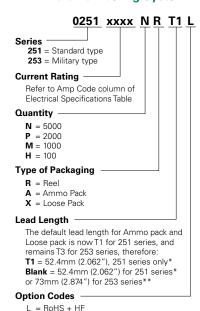
Packaging

Packaging Option	Packaging Specification	Quantity & Packaging Code			
*T1: 52.4mm (2.062") Tape and Reel	EIA 296	Please refer to available quantities above in "Part			
**T3: 73mm (2.874') Tape and Reel	EIA 296	Numbering System"			

The default lead length for both ammo pack and loose pack is T1 for 251 and is T3 for 253.

- 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.**** T3 dimension is defined as the length of the component between the two tapes. The full component length
- is 83.3.7mm (3.28"). **T3 length is for 253 series only.**

Part Numbering System



(Only applies to 251 Series)

Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are

