

# 304 Series

## PICO® 277V Intrinsically Safe Fuse



### Agency Approvals

Agency	Agency File Number	Ampere Rating
	DEMKO 13 ATEX 1200U Ex II 1 G Ex ia IIC	50 - 750mA
	E358130	50 - 750mA
	IECEx UL 13.0077U Ex ia IIC	50 - 750mA
	NA	50 - 750mA

### Reference Standards

Agency	Standards
ATEX	EN 60079-0, EN 60079-11, EN 60079-26
IECEx	IEC 60079-0, IEC 60079-11, IEC 60079-26
United States	UL 913, UL 60079-0, UL 60079-11, UL 248-1, UL 248-14
Canada	CAN/CSA C22.2 No. 157, CAN/CSA C22.2 No. 60079-0, CAN/CSA C22.2 No. 60079-11, CSA 248-1, CSA 248-14

### Description

The PICO® 304 Series offers a range of surface mountable encapsulated fuses certified as intrinsically safe components that can be used in hazardous locations. Ideal for use in oil, gas, mine, chemical, pharmaceutical and process industries, the PICO® 304 Series surface mountable fuse was designed to limit the energy and temperature generated during its operation. The fuse design and its encapsulant are suitable for use in intrinsically safe apparatus and associated apparatus for peak voltage not exceeding 375V.

### Features

- Surface Mountable
- Encapsulated and sealed (1mm minimum)
- High breaking capacity of 1500A at 277V AC/DC
- Current rating options from 0.050 to 0.750A
- Global hazardous location certifications
- Suitable for Class I, Class II, Class III, and Zone 0 Hazardous Location.
- RoHS-compliant

### Applications

- Testing, measuring or processing electronic and electrical equipment
- Motor controllers
- Communication handsets/two-way radios
- Process control and automation
- Sensors
- Lighting
- Flow/gas meters

### Electrical Characteristics for Series

% of Ampere Rating	Opening Time
110%	4 Hours, Minimum
300%	10 Seconds, Maximum

### Electrical Specifications by Items

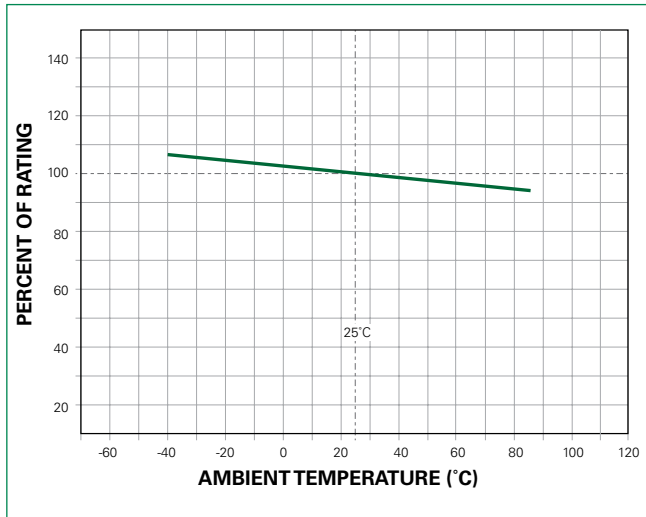
Catalog Number	Ampere Rating (A)	Amp Code	Interrupting Rating	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> Sec.)	Minimum Cold Resistance at -20°C (Ohms)	Minimum Cold Resistance at -40°C (Ohms)	Nominal Cold Resistance at 25°C (Ohms)	Agency Approvals				
0304.050	0.050	.050	1500A @ 277VAC/DC	0.00019	9.202	9.010	12.00	X	X	X	X	X
0304.080	0.080	.080		0.00035	6.031	5.963	8.19	X	X	X	X	X
0304.100	0.100	.100		0.00070	2.709	2.668	5.00	X	X	X	X	X
0304.160	0.160	.160		0.00202	2.297	2.292	3.00	X	X	X	X	X
0304.200	0.200	.200		0.00288	1.935	1.839	2.68	X	X	X	X	X
0304.250	0.250	.250		0.00662	1.268	1.105	1.60	X	X	X	X	X
0304.500	0.500	.500		0.04462	0.392	0.368	0.46	X	X	X	X	X
0304.750	0.750	.750		0.13448	0.219	0.196	0.27	X	X	X	X	X

- Notes:** 1. The fuse must be mounted so that creepage and clearance distances are not impaired in any way.  
 2. The fuse is suitable for use in intrinsically safe equipment and associated apparatus for voltage not exceeding 375V peak.  
 3. Maximum surface temperature rise at 170% rated current: ≤200mA = 88°C, 250mA = 52°C, 500mA = 52°C, and 750mA = 45°C.

# 304 Series

## PICO® 277V Intrinsically Safe Fuse

### Temperature Derating Curve



- Notes:**
1. Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.
  2. The temperature derating curve represents the nominal conditions. For questions about temperature derating curve, please consult Littelfuse technical support for assistance.

### Product Characteristics

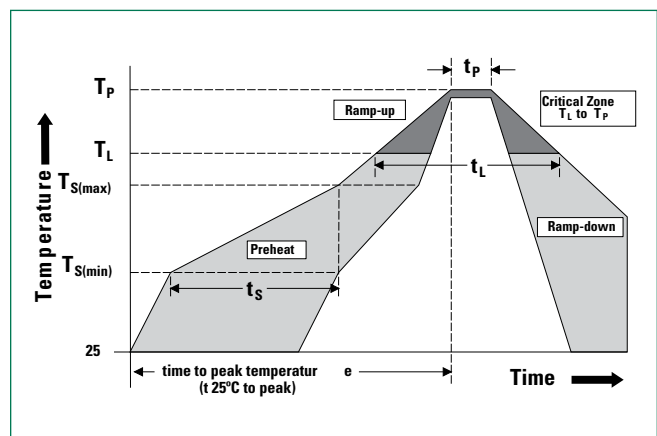
Operating Temperature	
Current Rating	Ambient Temperature
≤0.200A	-40°C to +60°C
0.250A	-40°C to +56°C
0.500A	-40°C to +84°C
0.750A	-40°C to +56°C

- Notes:**
1. Any use of the 304 Series fuse outside of the ambient temperature ranges specified in the table is subject to additional investigation.
  2. Specified ambient temperature range is for intrinsic safety certification.

<b>Molding Material</b>	Polyamide 6T/66 CTI 175 volts minimum Continuous Operating Temperature: 140°C
<b>Thermal Shock</b>	Withstands 5 cycles of -55°C to 125°C
<b>Mechanical Shock</b>	MIL-STD-202, Method 213
<b>Insulation Resistance (After Opening)</b>	Greater than 10,000 ohms (at twice rated DC voltage)
<b>Resistance to Soldering Heat</b>	MIL-STD-202, Method 210
<b>Moisture Resistance</b>	MIL-STD-202, Method 106
<b>Salt Fog Test</b>	MIL-STD-202, Method 101

### Soldering Parameters

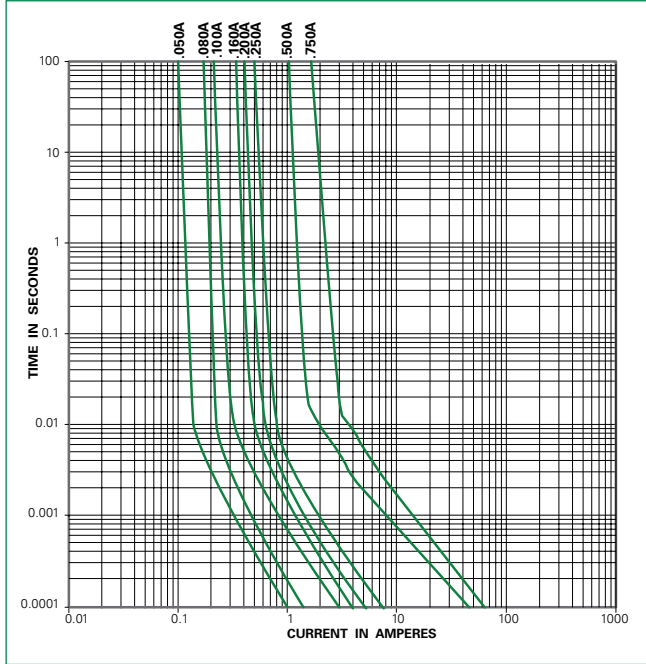
<b>Reflow Condition</b>	Pb-free assembly	
<b>Pre Heat</b>	- Temperature Min ( $T_{s(min)}$ )	150°C
	- Temperature Max ( $T_{s(max)}$ )	200°C
	- Time (Min to Max) ( $t_s$ )	60 – 120 seconds
<b>Average Ramp-up Rate (Liquidus Temp (<math>T_L</math>) to peak)</b>	5°C/second max	
<b><math>T_{s(max)}</math> to <math>T_L</math> - Ramp-up Rate</b>	5°C/second max	
<b>Reflow</b>	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Temperature ( $t_L$ )	60 – 150 seconds
<b>Peak Temperature (<math>T_P</math>)</b>	260 $\pm$ 0/5°C	
<b>Time within 5°C of actual peak Temperature (<math>t_p</math>)</b>	20 – 40 seconds	
<b>Ramp-down Rate</b>	5°C/second max	
<b>Time 25°C to Peak Temperature (<math>T_P</math>)</b>	8 minutes max	
<b>Do not exceed</b>	260°C	
<b>Wave Soldering</b>	260°C, 10 sec. max	



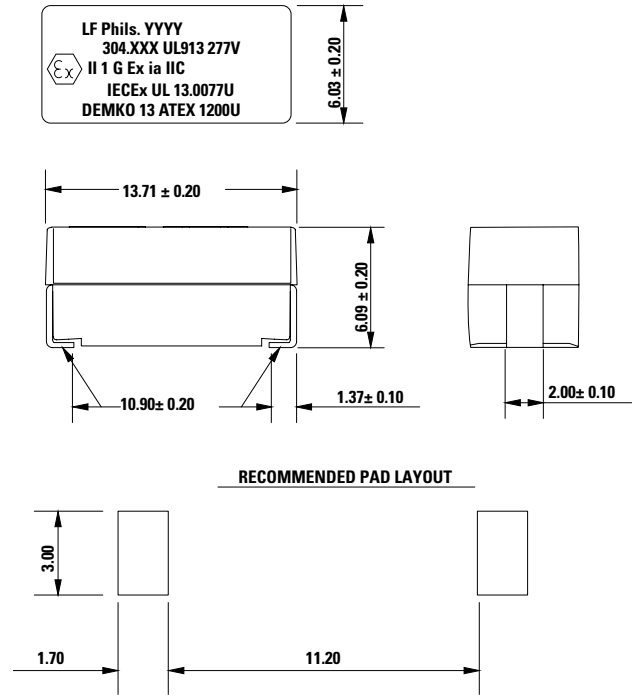
# 304 Series

## PICO® 277V Intrinsically Safe Fuse

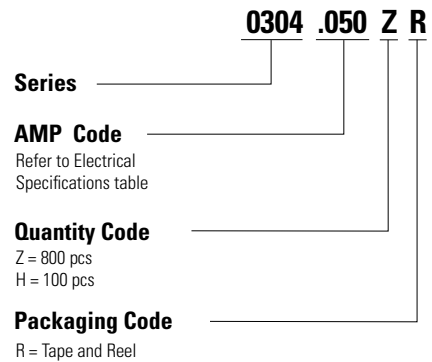
### Average Time Current Curves



### Dimensions (mm)



### Part Numbering System



### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
24mm Tape and Reel	EIA 481-1	800	ZR
		100	HR

**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 not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at: [www.littelfuse.com/disclaimer-electronics](http://www.littelfuse.com/disclaimer-electronics)

单击下面可查看定价，库存，交付和生命周期等信息

[>>Littelfuse\(美国力特\)](#)