

# Special Application Fuses

PICO® 259-UL913 Series Intrinsically Safe Fuse for Hazardous Locations

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## PICO® 259-UL913 Series Intrinsically Safe Fuse



### Description

The 259-UL913 Series offers a range of encapsulated fuses certified under the UL 913, the standard for intrinsically safe electrical equipment, to operate in hazardous locations. Ideal for use in the oil, gas, mine, chemical process, and pharmaceutical industries, the 259-UL913 fuse was designed to limit the energy and temperature generated during its operation. In addition to UL913, these fuses meet ATEX and IECEx requirements. The fuse design and its encapsulant are suitable for use in intrinsically safe apparatus and associated apparatus for voltage not exceeding 125V rms (190V peak).

### Features

- Encapsulated and sealed (1mm minimum)
- Global hazardous location certifications
- 0.62A - 5A range options
- Designed to operate within hazardous environments

### Applications

- Testing, measuring or processing electronic and electrical equipment

### Reference Standards

Agency	Standards
ATEX	EN 60079-0, EN 60079-11
IECEx	IEC 60079-0, IEC 60079-11

### Agency Approvals

Agency	Agency File Number	Ampere Range
	Baseefa02ATEX0071U	0.62A - 5A
	E10480 E358130	0.62A - 5A
	IECEx BAS 10.0098U	0.62A - 5A

### Electrical Characteristics for Series

% of Ampere Rating	Opening Time
100%	4 Hours, Minimum
200%	5 Seconds, Maximum

### Electrical Specifications by Items

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		
0.062	.062	50A @ 125 VAC 300A @ 125 VDC	0.00011	4.89	4.39	7.00	x	x	x
0.125	.125		0.0012	1.35	1.26	1.70	x	x	x
0.250	.250		0.0095	0.51	0.48	0.67	x	x	x
0.375	.375		0.025	0.32	0.29	0.395	x	x	x
0.500	.500		0.0598	0.24	0.22	0.302	x	x	x
0.750	.750		0.153	0.14	0.12	0.175	x	x	x
1.00	001.		0.256	0.10	0.07	0.128	x	x	x
3.00	003.		1.27	0.03	0.01	0.03	x	x	x
5.00	005.	50A @ 125 VAC 300A @ 63 VDC	4.14	0.01	0.005	0.0158	x	x	x

#### Schedule of limitations:

- 1) The fuse must be mounted in such a way that creepage and clearance distances aren't impaired in any way.
- 2) The fuse is suitable for use in intrinsically safe equipment for voltages not exceeding 190V peak.
- 3) Maximum surface temperature rise at 170% rated current:  $\leq 750mA = 40^\circ C$ ,  $1A = 55^\circ C$ ,  $3A = 118^\circ C$  and  $5A = 135^\circ C$ .

### Additional Information



Datasheet



Resources



Samples

### Product Characteristics

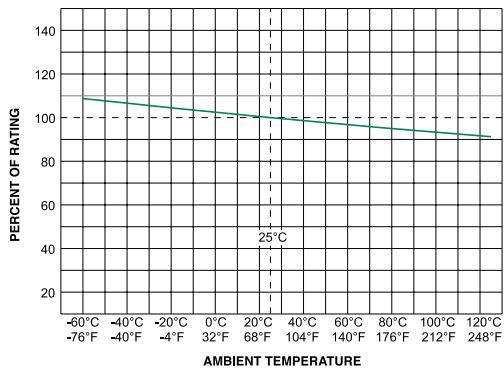
Operating Temperature	
Current Rating	Ambient Temperature
≤ 0.750 A	- 40°C to +81°C
1 A	- 40°C to +73°C
3 A	- 40°C to +74°C
5 A	- 40°C to +45°C

Notes:

1. Any use of the 259-UL913 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>Materials</b>	Body : Polyamide Terminals - Tin Plated Copper Alloy Maximum operating temperature of Materials is 130°C
<b>Operating Temperature</b>	For operating temperature see table above (Consider re-rating)
<b>Thermal Shock</b>	Withstands 5 cycles of - 55°C to 125°C
<b>Vibration</b>	Per MIL-STD-202, Method 201
<b>Insulation Resistance (After Opening)</b>	Greater than 10,000 ohms (at 250V DC)

### Temperature Re-rating Curve



Note:

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

### Soldering Parameters

#### Recommended Process Parameters:

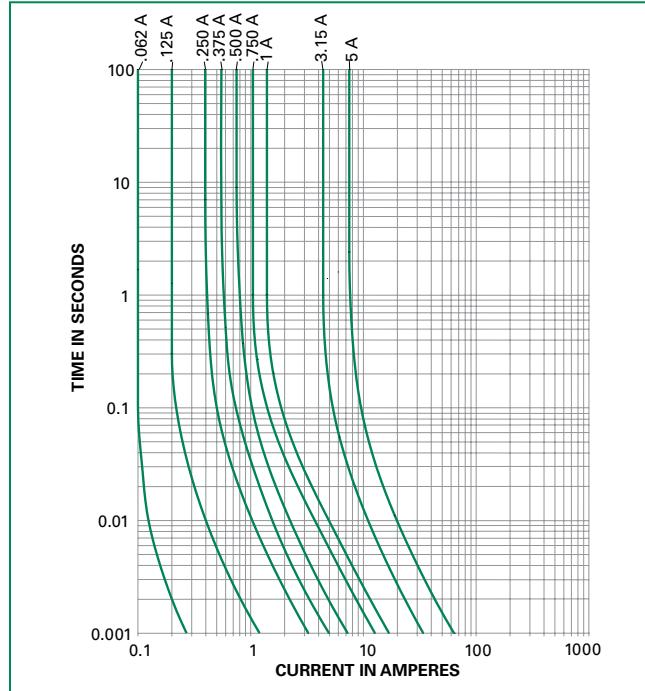
Wave Parameter	Lead-Free Recommendation
Preheat: (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum:	100°C
Temperature Maximum:	150°C
Preheat Time:	60-180 seconds
Solder Pot Temperature:	260°C Maximum
Solder Dwell Time:	2-5 seconds

#### 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**

### Average Time Current Curves



### Part Numbering System

**0259.062M X913**

**SERIES**

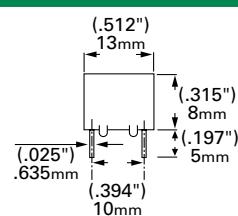
**AMP Code**

**Example:**  
1 amp product is  
0259001.MX913  
(.062 amp product shown).

**PACKAGING Code** -

M = Bulk pack, 1000 pcs  
T = Bulk pack, 10 pcs

### Dimensions



### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
Bulk	N/A	1000	M = Bulk 1000 pieces, T = Bulk 10 pieces Please refer to available quantities above in "Part Numbering System"
Bulk	N/A	10	