

### PICO® 259-UL913 Series Intrinsically Safe Fuse



#### Agency Approvals

| Agency | Agency File Number | Ampere Range |
|--------|--------------------|--------------|
|        | Baseefa02ATEX0071U | 0.62A - 5A   |
|        | E10480<br>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<br>300A @ 125 VDC | 0.00011                                                | 4.89                                    | 4.39                                    | 7.00                                   | x                | x | x | x |
| 0.125             | .125     |                                 | 0.0012                                                 | 1.35                                    | 1.26                                    | 1.70                                   | x                | x | x | x |
| 0.250             | .250     |                                 | 0.0095                                                 | 0.51                                    | 0.48                                    | 0.67                                   | x                | x | x | x |
| 0.375             | .375     |                                 | 0.025                                                  | 0.32                                    | 0.29                                    | 0.395                                  | x                | x | x | x |
| 0.500             | .500     |                                 | 0.0598                                                 | 0.24                                    | 0.22                                    | 0.302                                  | x                | x | x | x |
| 0.750             | .750     |                                 | 0.153                                                  | 0.14                                    | 0.12                                    | 0.175                                  | x                | x | x | x |
| 1.00              | .001.    |                                 | 0.256                                                  | 0.10                                    | 0.07                                    | 0.128                                  | x                | x | x | x |
| 3.00              | .003.    | 50A @ 125 VAC<br>300A @ 63 VDC  | 1.27                                                   | 0.03                                    | 0.01                                    | 0.03                                   | x                | x | x | x |
| 5.00              | .005.    |                                 | 4.14                                                   | 0.01                                    | 0.005                                   | 0.0158                                 | x                | 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: ≤750mA=40°C, 1A=55°C, 3A=118°C and 5A=135°C.

#### 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 |

#### Additional Information



**Datasheet**



**Resources**



**Samples**

## Product Characteristics

### Operating Temperature

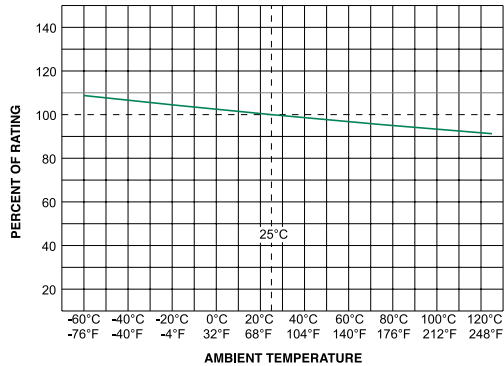
| Current Rating | Ambient Temperature |
|----------------|---------------------|
| ≤ 0.750 A      | - 40°C to +81°C     |
| 1 A            | - 40°C to +73°C     |
| 3 A            | - 40°C to +74°C     |
| 5 A            | - 40°C to +45°C     |

#### Notes:

- Any use of the 259-UL913 Series fuse outside of the ambient temperature ranges specified in the table is subject to additional investigation.
- Specified ambient temperature range is for intrinsic safety certification.

|                                              |                                                                                                                |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Materials</b>                             | Body : Polyamide<br>Terminals - Tin Plated Copper Alloy<br>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:

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

## Soldering Parameters

### Recommended Process Parameters:

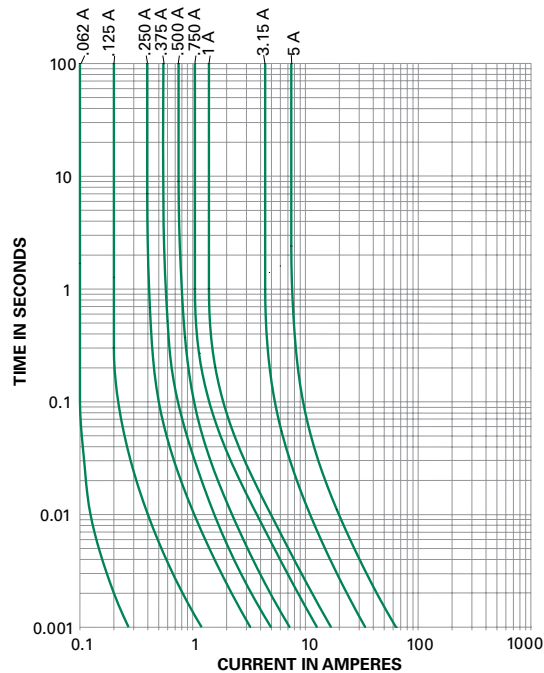
| Wave Parameter                                              | Lead-Free Recommendation          |
|-------------------------------------------------------------|-----------------------------------|
| <b>Preheat:</b><br>(Depends on Flux Activation Temperature) | (Typical Industry Recommendation) |
|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

The dot is positioned before the Packaging Suffix with whole ratings and within the numbering sequence for fractional ratings. Refer to Amp Code column in the Electrical Specifications table.

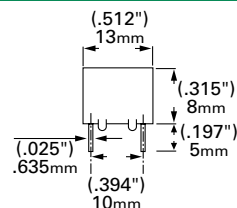
### PACKAGING Code

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

### Example:

1 amp product is  
0259**001**.MX913  
(.062 amp product shown).

## Dimensions



## Packaging

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