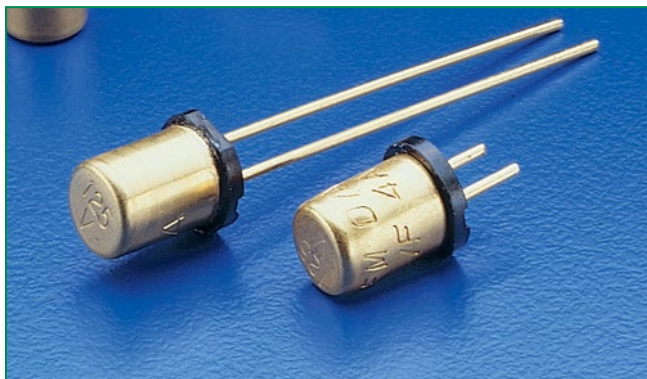


### 262/268/269 Series, MICRO™ Very Fast-Acting Fuse (High-Reliability)



#### Description

The 262/268/269 Series are high-reliability MICRO™ fuses, with a 125V rating, very fast-acting type with high breaking capacity. The 269 series is listed under the Department of Defense Quality Product List.

#### Features

- Military grade available
- Available from very low ampere of 0.002A to 5A
- Available in plug-in and radial leaded
- Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14

#### Applications

Protection of electrical, electronic, and communication equipment having printed circuit boards (PCBs) usable in direct current (DC) and alternating current (AC) (up to 400 hertz (Hz)) circuits capable of withstanding and functioning in extreme conditions found in Spacecraft or Military applications as described in MIL-PRF-23419.

#### Agency Approvals

| Agency                                                                            | Agency File Number | Ampere Range | Series    |
|-----------------------------------------------------------------------------------|--------------------|--------------|-----------|
|  | E10480             | 0.002A - 5A  | 262 & 268 |
|  | 29862              | 0.002A - 5A  | 262 & 268 |
|  | FM07A              | 0.002A - 5A  | 269       |

#### Electrical Characteristics

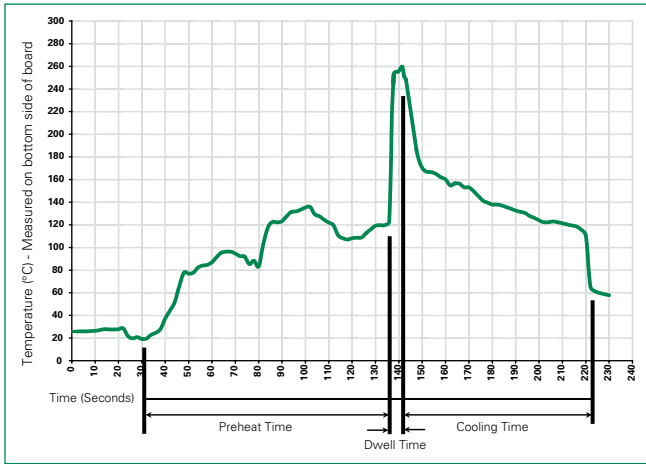
| % of Ampere Rating | Ampere Rating | Opening Time    |
|--------------------|---------------|-----------------|
| 100%               | 0.002 – 15    | 4 Hours, Min.   |
| 200%               | 0.002 – 0.3   | 5 Seconds, Max. |
|                    | 0.4 - 5       | 2 Seconds, Max. |

#### Electrical Characteristics

| Ampere Rating (A) | Amp Code | Max Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Agency Approvals                                                                      |                                                                                       |                                                                                       |
|-------------------|----------|------------------------|---------------------|--------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                   |          |                        |                     |                                |  |  |  |
| 0.002             | 0.002    | 125                    | 10,000A@125VAC/VDC  | 2000                           | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.005             | 0.005    | 125                    |                     | 280                            | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.010             | 0.010    | 125                    |                     | 94.0                           | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.015             | 0.015    | 125                    |                     | 44.0                           | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.031             | 0.031    | 125                    |                     | 16.45                          | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.050             | 0.050    | 125                    |                     | 3.20                           | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.062             | 0.062    | 125                    |                     | 2.25                           | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.100             | 0.100    | 125                    |                     | 1.17                           | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.125             | 0.125    | 125                    |                     | 1.0                            | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.200             | 0.200    | 125                    |                     | 2.30                           | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.250             | 0.250    | 125                    |                     | 1.75                           | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.300             | 0.300    | 125                    |                     | 1.25                           | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.400             | 0.400    | 125                    |                     | 0.227                          | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.500             | 0.500    | 125                    |                     | 0.167                          | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.600             | 0.600    | 125                    |                     | 0.140                          | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.700             | 0.700    | 125                    |                     | 0.114                          | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.750             | 0.750    | 125                    |                     | 0.104                          | X                                                                                     | X                                                                                     | X                                                                                     |
| 0.800             | 0.800    | 125                    |                     | 0.094                          | X                                                                                     | X                                                                                     | X                                                                                     |
| 1.00              | 001.0    | 125                    |                     | 0.100                          | X                                                                                     | X                                                                                     | X                                                                                     |
| 01.5              | 01.5     | 125                    |                     | 0.063                          | X                                                                                     | X                                                                                     | X                                                                                     |
| 2.00              | 002.0    | 125                    |                     | 0.046                          | X                                                                                     | X                                                                                     | X                                                                                     |
| 3.00              | 003.0    | 125                    |                     | 0.034                          | X                                                                                     | X                                                                                     | X                                                                                     |
| 4.00              | 004.0    | 125                    |                     | 0.019                          | X                                                                                     | X                                                                                     | X                                                                                     |
| 5.00              | 005.0    | 125                    |                     | 0.018                          | X                                                                                     | X                                                                                     | X                                                                                     |

Please contact Littelfuse for Average Time Current Curve.

### Soldering Parameters - Wave Soldering



### Recommended Process Parameters:

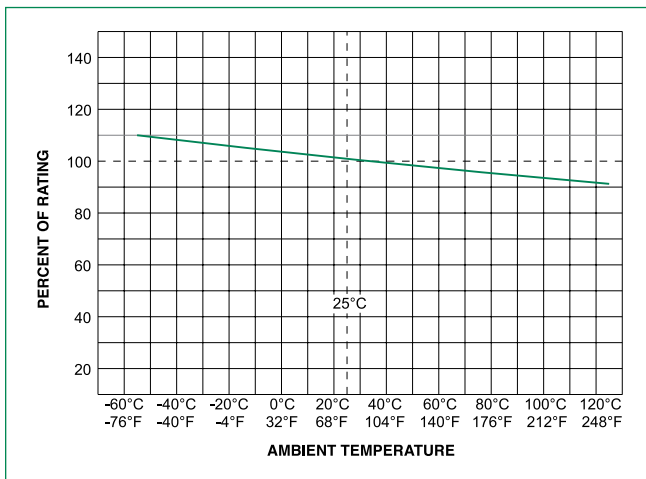
| Wave Parameter                                       | Lead-Free Recommendation          |
|------------------------------------------------------|-----------------------------------|
| Preheat:<br>(Depends on Flux Activation Temperature) | (Typical Industry Recommendation) |
| Temperature Minimum:                                 | 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-Solder 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.

### Temperature Re-rating Curve



#### Notes:

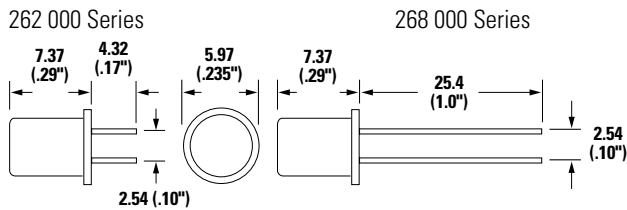
1. Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.
2. Please contact Littelfuse for average time current curve.

### Product Characteristics

|                                                |                                                                                                                                                                              |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Materials</b>                               | Gold-Plated Copper Leads, Type II (Fuse cap is also Gold-Plated)                                                                                                             |
| <b>Weight</b>                                  | 262 and 269 Series .36 Grams;<br>268 Series .48 Grams                                                                                                                        |
| <b>Lead Pull Force</b>                         | MIL-STD-202, Method 211, Test Condition A (will withstand a 5 lb. axial pull test)                                                                                           |
| <b>AQL (Electrical Characteristics)</b>        | Certified to 1% AQL                                                                                                                                                          |
| <b>Sampling</b>                                | Per MIL-STD-105, Inspection Level II                                                                                                                                         |
| <b>Traceability and Identification Records</b> | Controlled by lot number and retained on file for a minimum of three years. Copies of Lot Certification Test data available when requested with order                        |
| <b>Options</b>                                 | Special screening tests, burn-in, etc. can be supplied on special order to meet specific requirements                                                                        |
| <b>Product Marking</b>                         | 262 / 268 Series: Brand logo, current and voltage ratings<br>269 Series: Brand logo, current and voltage ratings and agency approval mark                                    |
| <b>Operating Temperature</b>                   | -55°C to +125°C                                                                                                                                                              |
| <b>Shock</b>                                   | (1/500): MIL-STD-202, Method 213, Test Condition A (50 G's peak for 11 milliseconds). (1/200-5): MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds) |

|                                              |                                                                                                           |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Vibration</b>                             | MIL-STD-202, Method 201 (10-55 Hz); MIL-STD-202, Method 204, Test Condition C (55-2000 Hz at 10 G's Peak) |
| <b>Salt Spray</b>                            | MIL-STD-202, Method 101, Test Condition B                                                                 |
| <b>Seal Test</b>                             | MIL-STD-202, Method 112, Test Condition A                                                                 |
| <b>Insulation Resistance (After Opening)</b> | MIL-STD-202, Method 302, Test Condition A (1/2 Megohm minimum)                                            |
| <b>Thermal Shock</b>                         | MIL-STD-202, Method 107, Test Condition B (-65°C to 125°C)                                                |
| <b>Moisture Resistance</b>                   | MIL-STD-202, Method 106                                                                                   |
| <b>Fuses to MIL SPEC</b>                     | 262 Series is available as FM07A on QPL for MIL-PRF-23419/7. To order, change 262 to 269                  |

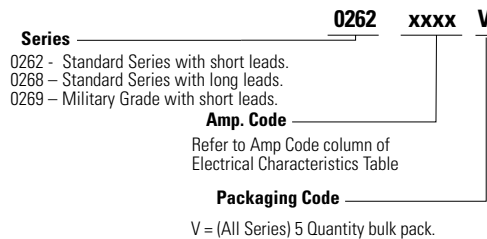
### Dimensions



### Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity & Packaging Code |
|------------------|-------------------------|----------|---------------------------|
| Bulk             | N / A                   | 5        | V                         |

### Part Numbering System



### Additional Information



**Datasheet  
262 Series**



**Datasheet  
268 Series**



**Datasheet  
269 Series**



**Resources  
262 Series**



**Resources  
268 Series**



**Resources  
269 Series**



**Samples  
262 Series**



**Samples  
268 Series**



**Samples  
269 Series**