

## FUSES

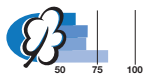
### Resettable fuses

## PFMU

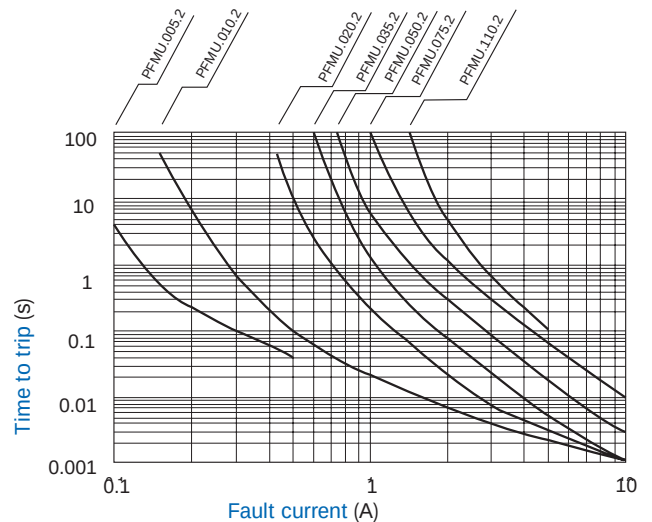
#### Surface Mount PTC-Fuses Type PFMU

2,8 x 3,4 mm  
fast tripping  
Packaged per EIA 481-1

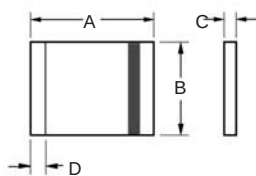
Agency recognition:  
UL, CSA, TÜV



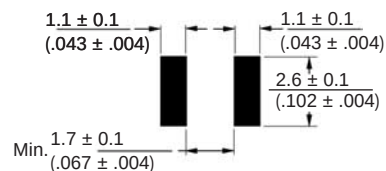
Typical Time to Trip at 23 °C



#### Dimensions



#### Solder pad layouts

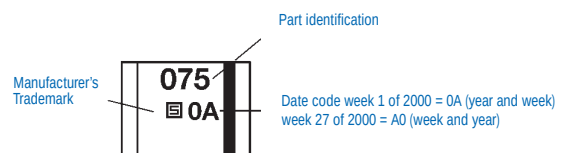


#### Applications

- PC motherboards
- PC modems
- USB
- General electronics: Phones, fax machines, televisions, printers, video equipment, PDA

#### Typical Part Marking

Layout may vary



#### Environmental Characteristics

|                                                     |                                          |                           |
|-----------------------------------------------------|------------------------------------------|---------------------------|
| Operating/Storage Temperature                       | -40 °C to +85 °C                         |                           |
| Maximum Device Surface Temperature in Tripped State | 125 °C                                   |                           |
| Passive Aging                                       | +85 °C, 1000 hours                       | ± 5% typ. resist. change  |
| Humidity Aging                                      | +85 °C, 85% R.H. 1000 hours              | ± 10% typ. resist. change |
| Thermal Shock                                       | +85 °C/-40 °C 20 times                   | ± 10% typ. resist. change |
| Solvent Resistance                                  | MIL-STD-202, Method 215                  | No change                 |
| Vibration                                           | MIL-STD-883C, Method 2007.1, Condition A | No change                 |

#### Test Procedures And Requirements For Model PFMU Series

| Test            | Test Conditions                       | Accept/Reject Criteria                   |
|-----------------|---------------------------------------|------------------------------------------|
| Visual/Mech.    | Verify dimensions and materials       | Per MF physical description              |
| Resistance      | In still air @ 23 °C                  | $R_{min} \leq R \leq R_{max}$            |
| Time to Trip    | At specified current, $V_{max}$ 23 °C | $T \leq \text{max. time to trip (sec.)}$ |
| Hold Current    | 30 min. at $I_{hold}$                 | No trip                                  |
| Trip Cycle Life | $V_{max}$ , $I_{max}$ , 100 cycles    | No arcing or burning                     |
| Trip Endurance  | $V_{max}$ , 48 hours                  | No arcing or burning                     |

**Electrical Characteristics / Elektrische Daten**

| Type       | I <sub>max</sub> | V <sub>max</sub> | I <sub>hold</sub> | I <sub>trip</sub> | Initial Resistance | 1 Hour (R1) Post-Reflow Resistance | Max. Time to trip at 23 °C/8A |          | Tripped Power Dissipation |
|------------|------------------|------------------|-------------------|-------------------|--------------------|------------------------------------|-------------------------------|----------|---------------------------|
|            |                  |                  | Amperes at 23 °C  |                   | Ohms at 23 °C      |                                    | Amperes                       | Seconds  | Watts at 23 °C            |
|            | A                | V                | Hold              | Trip              | R <sub>min.</sub>  | R <sub>1 max.</sub>                | at 23 °C                      | at 23 °C |                           |
| PFMU.005.2 | 10               | 30               | 0.05              | 0.15              | 2.80               | 50.0                               | 0.25                          | 1.5      | 0.8                       |
| PFMU.010.2 | 10               | 30               | 0.10              | 0.30              | 0.80               | 15.0                               | 0.5                           | 0.6      | 0.8                       |
| PFMU.020.2 | 10               | 30               | 0.20              | 0.40              | 0.40               | 5.0                                | 8.0                           | 0.2      | 0.8                       |
| PFMU.035.2 | 40               | 6                | 0.35              | 0.75              | 0.20               | 1.30                               | 8.0                           | 0.2      | 1.0                       |
| PFMU.050.2 | 40               | 13.2             | 0.50              | 1.00              | 0.18               | 0.90                               | 8.0                           | 0.1      | 1.0                       |
| PFMU.075.2 | 40               | 6                | 0.75              | 1.50              | 0.07               | 0.45                               | 8.0                           | 0.1      | 1.2                       |
| PFMU.110.2 | 40               | 6                | 1.10              | 2.20              | 0.05               | 0.21                               | 8.0                           | 0.1      | 1.2                       |

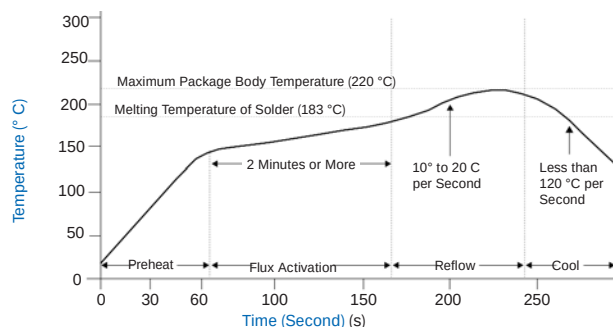
**Dimensions**

| Model      | A                      |                        | B                      |                        | C                      |                        | D                      |
|------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|            | min.                   | max.                   | min.                   | max.                   | min.                   | max.                   | min.                   |
| PFMU.005.2 | <u>3.00</u><br>(0.118) | <u>3.43</u><br>(0.135) | <u>2.35</u><br>(0.092) | <u>2.80</u><br>(0.110) | <u>0.38</u><br>(0.015) | <u>0.62</u><br>(0.025) | <u>0.30</u><br>(0.012) |
| PFMU.010.2 | <u>3.00</u><br>(0.118) | <u>3.43</u><br>(0.135) | <u>2.35</u><br>(0.092) | <u>2.80</u><br>(0.110) | <u>0.38</u><br>(0.015) | <u>0.62</u><br>(0.025) | <u>0.30</u><br>(0.012) |
| PFMU.020.2 | <u>3.00</u><br>(0.118) | <u>3.43</u><br>(0.135) | <u>2.35</u><br>(0.092) | <u>2.80</u><br>(0.110) | <u>0.38</u><br>(0.015) | <u>0.62</u><br>(0.025) | <u>0.30</u><br>(0.012) |
| PFMU.035.2 | <u>3.00</u><br>(0.118) | <u>3.43</u><br>(0.135) | <u>2.35</u><br>(0.092) | <u>2.80</u><br>(0.110) | <u>0.38</u><br>(0.015) | <u>0.62</u><br>(0.025) | <u>0.30</u><br>(0.012) |
| PFMU.050.2 | <u>3.00</u><br>(0.118) | <u>3.43</u><br>(0.135) | <u>2.35</u><br>(0.093) | <u>2.80</u><br>(0.110) | <u>0.38</u><br>(0.015) | <u>0.62</u><br>(0.024) | <u>0.30</u><br>(0.012) |
| PFMU.075.2 | <u>3.00</u><br>(0.118) | <u>3.43</u><br>(0.135) | <u>2.35</u><br>(0.092) | <u>2.80</u><br>(0.110) | <u>0.38</u><br>(0.015) | <u>0.62</u><br>(0.025) | <u>0.30</u><br>(0.012) |
| PFMU.110.2 | <u>3.00</u><br>(0.118) | <u>3.43</u><br>(0.135) | <u>2.35</u><br>(0.092) | <u>2.80</u><br>(0.110) | <u>0.38</u><br>(0.015) | <u>0.62</u><br>(0.025) | <u>0.30</u><br>(0.012) |

Packaging: 3000 pcs. per reel

Dimensions in mm/inches

**Soldering Profile**



**Note**

- PFMU models can be wave soldered and reworked.

**How To Order**

|                                 |                                   |    |      |    |
|---------------------------------|-----------------------------------|----|------|----|
| PTC-Fuse                        | PF                                | MU | .xxx | .x |
| Style                           | MU = 1210 Surface Mount Component |    |      |    |
| Hold Current, I <sub>hold</sub> | 005-110 (0.05 A - 1.10 A)         |    |      |    |
| Packaging                       | Packaged per EIA 481-1            |    |      |    |
|                                 | 2 = Tape and reel                 |    |      |    |

**Thermal Derating Chart-I<sub>hold</sub> (Amps)**

| Type       | Ambient Operating Temperature |        |      |       |       |       |       |       |       |
|------------|-------------------------------|--------|------|-------|-------|-------|-------|-------|-------|
|            | -40 °C                        | -20 °C | 0 °C | 23 °C | 40 °C | 50 °C | 60 °C | 70 °C | 85 °C |
| PFMU.005.2 | 0.08                          | 0.07   | 0.06 | 0.05  | 0.04  | 0.04  | 0.03  | 0.03  | 0.02  |
| PFMU.010.2 | 0.16                          | 0.14   | 0.12 | 0.10  | 0.08  | 0.07  | 0.06  | 0.05  | 0.04  |
| PFMU.020.2 | 0.32                          | 0.28   | 0.24 | 0.20  | 0.16  | 0.14  | 0.12  | 0.10  | 0.06  |
| PFMU.035.2 | 0.47                          | 0.45   | 0.40 | 0.35  | 0.33  | 0.28  | 0.24  | 0.21  | 0.18  |
| PFMU.050.2 | 0.76                          | 0.67   | 0.58 | 0.50  | 0.43  | 0.40  | 0.36  | 0.32  | 0.28  |
| PFMU.075.2 | 1.00                          | 0.97   | 0.86 | 0.75  | 0.64  | 0.59  | 0.54  | 0.48  | 0.40  |
| PFMU.110.2 | 1.60                          | 1.42   | 1.26 | 1.10  | 0.94  | 0.86  | 0.80  | 0.70  | 0.58  |