

## FAST ACTING CHIP FUSES



### DESCRIPTION

The PF0402F Series are fast acting chip fuses that are designed to protect consumer electronics, computers and telecommunications equipment and devices from the risk of fire or shock caused by over-currents.

The PF0402F Series is available in a rugged ceramic and glass package. These devices have excellent environmental performance.

### FEATURES

- Fast Acting for Excessive Current
- Compatible with Reflow and Wave Solder
- Excellent Environmental Performance
- RoHS & REACH Compliant
- Halogen-Free Material
- Life Test: 30°C ±2°C, 75% Rated Current, 1000 Hours
- Humidity Bias: MIL-STD-202, Method 103
- Thermal Shock: MIL-STD-202, Method 107G
- Board Flex: AEC-Q200-005, Appendix 2 (1mm Min)
- Vibration: MIL-STD-202, Method 204D
- Solderability: MIL-STD-202, Method 208H
- Resistance to Solder Heat: MIL-STD-202, Method 210A

### APPLICATIONS

- Telecommunications Equipment - DSL/Cable Modems
- SMART Phones and other Handheld Devices
- Computers - Laptops, Desktops, Servers
- Computer Peripherals - Printers, LCD Panels, Scanners
- Consumer Electronics - DVD Player, MP3/4 Player

### MECHANICAL CHARACTERISTICS

- Ceramic and Glass Package
- Approximate Weight: TBA grams
- Lead-Free
- Soldering Method  
Reflow Soldering: 260°C, 5s Max

### ELECTRICAL CHARACTERISTICS

| AMPERE RATING | % OF AMP RATING | OPENING TIME      |
|---------------|-----------------|-------------------|
| 200mA - 4A    | 100%            | 4 Hours Minimum   |
| 200mA - 4A    | 250%            | 5 Seconds Maximum |

## TYPICAL DEVICE CHARACTERISTICS

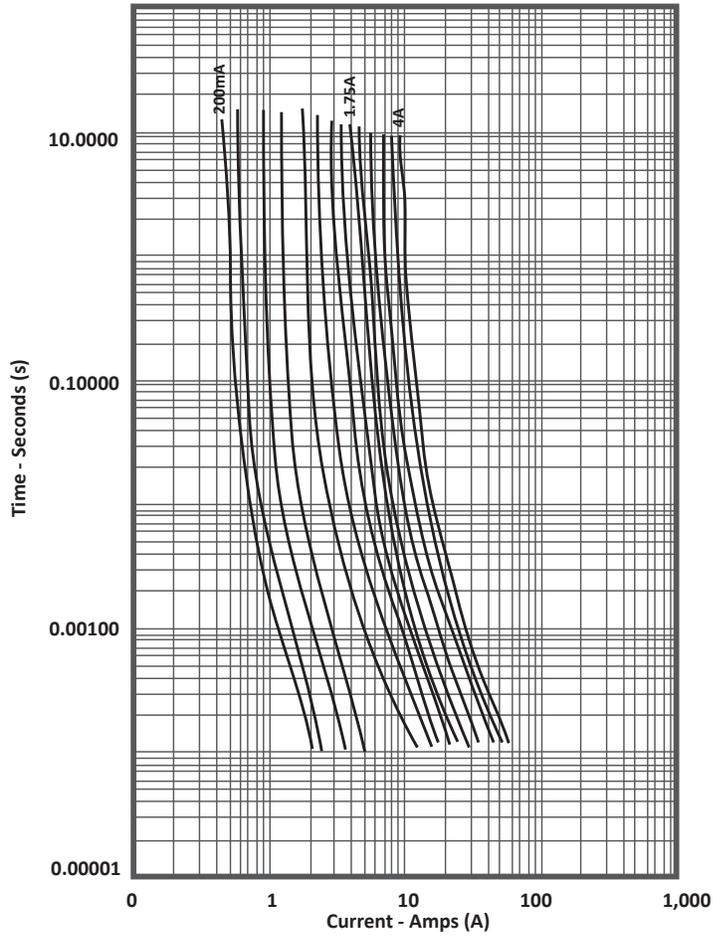
| ELECTRICAL SPECIFICATIONS |                |                |                              |                             |  |
|---------------------------|----------------|----------------|------------------------------|-----------------------------|--|
| PART NUMBER               | CURRENT RATING | VOLTAGE RATING | INTERRUPTING RATING (Note 1) | TYPICAL RESISTANCE (Note 2) | TYPICAL MELT I <sup>2</sup> t (Note 3) |
|                           | AMPS           | DC VOLTS       | DC AMPS                      | OHMS                        | DC (A <sup>2</sup> s)                  |
| PF0402F200                | 0.200          | 24             | 35                           | 4.300                       | 0.0008                                 |
| PF0402F250                | 0.25           | 24             | 35                           | 3.200                       | 0.0011                                 |
| PF0402F375                | 0.350          | 24             | 35                           | 1.140                       | 0.0021                                 |
| PF0402F500                | 0.500          | 24             | 35                           | 1.200                       | 0.0043                                 |
| PF0402F750                | 0.750          | 24             | 35                           | 0.520                       | 0.0110                                 |
| PF0402F1                  | 1.00           | 24             | 35                           | 0.090                       | 0.049                                  |
| PF0402F1.25               | 1.25           | 24             | 35                           | 0.075                       | 0.052                                  |
| PF0402F1.5                | 1.50           | 24             | 35                           | 0.058                       | 0.076                                  |
| PF0402F1.75               | 1.75           | 24             | 35                           | 0.045                       | 0.13                                   |
| PF0402F2                  | 2.00           | 24             | 35                           | 0.035                       | 0.18                                   |
| PF0402F2.5                | 2.50           | 24             | 35                           | 0.025                       | 0.23                                   |
| PF0402F3                  | 3.00           | 24             | 35                           | 0.019                       | 0.33                                   |
| PF0402F3.5                | 3.50           | 24             | 35                           | 0.018                       | 0.45                                   |
| PF0402F4                  | 4.00           | 24             | 35                           | 0.014                       | 0.65                                   |

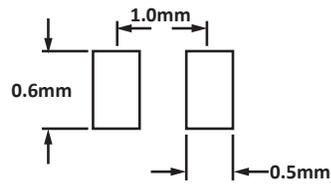
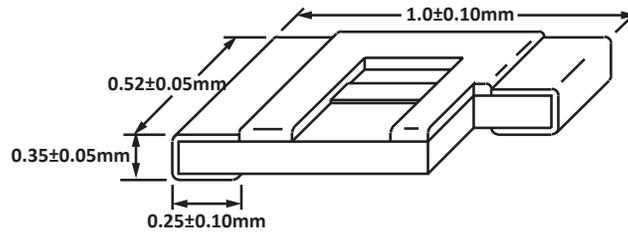
**NOTES**

- DC Interrupting Rating - measured at rated voltage, time constant of less than 50 microseconds, battery source.
- DC Cold Resistance - measured at 10% of rated current.
- Typical Melting I<sup>2</sup>t - measured with a battery bank at rated DC voltage and 1ms open time. Device designed to carry rated current for four hours minimum. An operating current of 75% or less of rated current is recommended, with further derating required at elevated ambient temperatures.

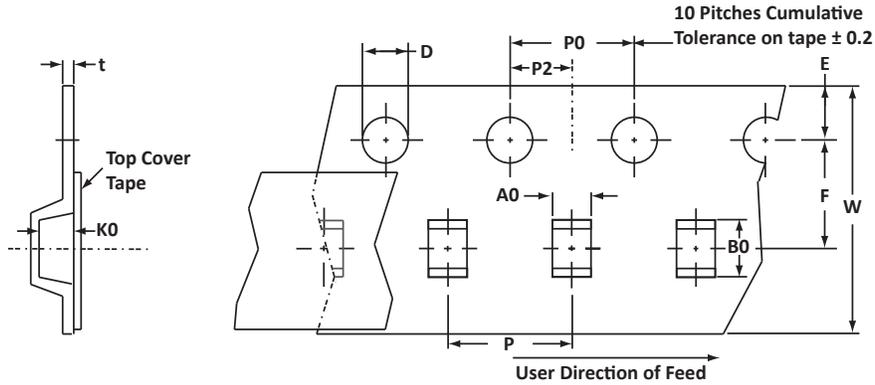
**TYPICAL DEVICE CHARACTERISTICS**

**FIGURE 1  
TIME CURRENT CURVE**



**PACKAGE OUTLINE AND PAD LAYOUT INFORMATION**

## TAPE AND REEL



## SPECIFICATIONS

| REEL DIA.  | TAPE WIDTH | A0          | B0          | K0          | D           | E           | F           | W           | P0          | P2          | P           | tmax |
|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------|
| 178mm (7") | 8mm        | 0.67 ± 0.10 | 1.10 ± 0.10 | 0.50 ± 0.10 | 1.50 ± 0.10 | 1.75 ± 0.10 | 3.50 ± 0.05 | 8.00 ± 0.30 | 4.00 ± 0.10 | 2.00 ± 0.05 | 4.00 ± 0.10 | 0.25 |

## NOTES

1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Suffix - T710 = 7" Reel - 10,000 pieces per 8mm tape.
4. Marking on Part - marking code.

## ORDERING INFORMATION

| BASE PART NUMBER<br>(xx = Voltage) | LEADFREE SUFFIX | TAPE SUFFIX | QTY/REEL | REEL SIZE | TUBE QTY |
|------------------------------------|-----------------|-------------|----------|-----------|----------|
| PF0402Fxx                          | N/A             | -T710       | 10,000   | 7"        | N/A      |

This device is only available in a Lead-Free configuration.

## COMPANY INFORMATION

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### COMPANY PROFILE

In business more than 20 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection and overcurrent protection components. These include transient voltage suppressor array (TVS arrays) avalanche breakdown diode, steering diode TVS array and electronics SMD chip fuses. These components deliver circuit protection in electronic systems from numerous overvoltage and overcurrent events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices also offers high performance interface and linear products. They include analog switches; multiplexers; LED drivers; LED wafer die for ESD protection; audio control ICs; RF and related high frequency products.

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