

# Fast Acting | 0.04x0.02 inch Thick Film Chip Fuses

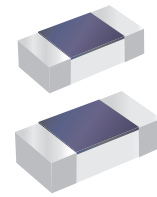
## 0402FA Series



0402FA Series Chip fuses set the industry standard for performance, reliability and quality. The solder-free design provides excellent on-off and temperature cycling characteristics and also makes our chip fuses more heat and shock tolerant than typical subminiature fuses.

### Features

- Fast acting for excessive current
- Compatible with reflow and wave solder
- Ceramic and glass construction
- Excellent environmental integrity
- One time positive disconnect
- Lead Free and Halogen free materia



### Applications

- Flat panel displays and televisions
- Automotive infotainment and ECU
- Computer servers
- Portable electronics
- Mobile device chargers

### Electrical Characteristics

Amp Rating	% of Amp Rating	Opening Time
0.20~4A	100%	4 Hours Min.
1~4A	250%	5 Seconds Max.
0.20~0.75A	300%	5 Seconds Max.

### Specifications

Part Number	Ampere Rating (A)	Voltage Rating (Vdc)	Interrupting Rating	Typical Cold Resistance (Ohms)	Typical Melting I <sup>2</sup> t (A <sup>2</sup> Sec)
0402FA-R200	0.200	32	32V@35A	2.250	0.0006
0402FA-R250	0.250	32	32V@35A	1.500	0.0010
0402FA-R315	0.315	32	32V@35A	1.000	0.0014
0402FA-R375	0.375	32	32V@35A	0.780	0.0018
0402FA-R500	0.500	32	32V@35A	0.500	0.0043
0402FA-R750	0.750	32	32V@35A	0.220	0.0110
0402FA-1A	1.00	32	32V@35A	0.130	0.0400
0402FA-1.25A	1.25	32	32V@35A	0.100	0.0480
0402FA-1.5A	1.50	32	32V@35A	0.078	0.0600
0402FA-2A	2.00	32	32V@35A	0.040	0.1300
0402FA-2.5A	2.50	32	32V@35A	0.024	0.2000
0402FA-3A	3.00	32	32V@35A	0.018	0.3300
0402FA-3.5A	3.50	32	32V@35A	0.014	0.4500
0402FA-4A	4.00	32	32V@35A	0.011	0.6000

- DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source);
- DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25 degrees;
- Typical Melting I<sup>2</sup>t (Measured with a battery bank at rated DC voltage, Measured at 1ms open time, time constant of calibrated circuit less than 50 microseconds).

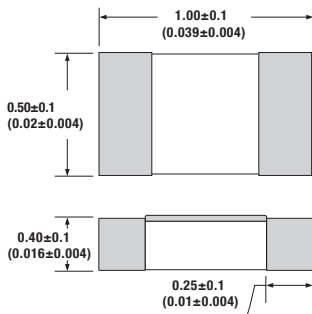
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## Thick Film Chip Fuses

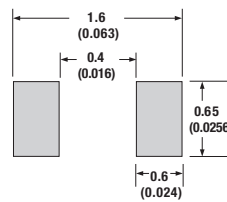
## 0402FA Series

### Dimension

Unit: mm/inch



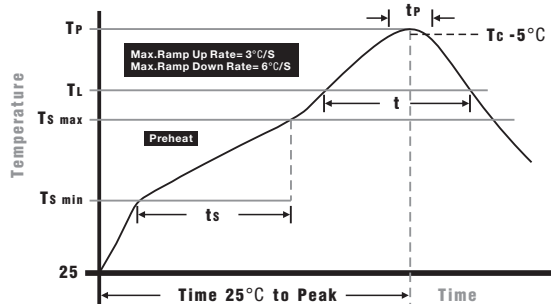
### Pad layout



### Packaging

- Quantity: 10,000pcs
- 8mm wide tape on 178mm(7 inch) diameter reel -specification EIA Standard 481.

### Soldering Parameters

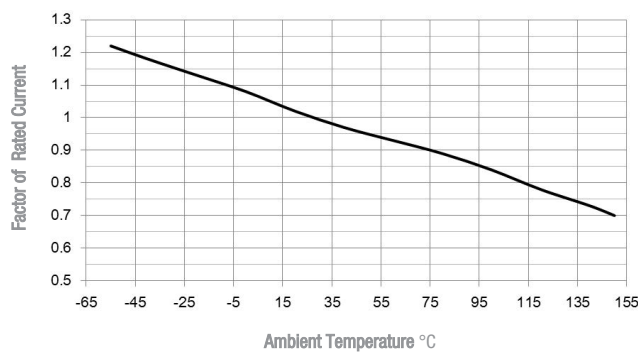


Wave Soldering: 260°C, 10 seconds max.  
Infrared Reflow: 260°C, 30 seconds max.

### IR Reflow Profile

<b>Preheat Heat</b>	
Temperature min (T <sub>min</sub> )	150°C
Temperature max (T <sub>max</sub> )	200°C
Time (T <sub>min</sub> to T <sub>max</sub> ) (ts)	60 - 120 seconds
Average ramp-up rate (T <sub>max</sub> to T <sub>p</sub> )	3°C/second max.
<b>Liquidous temperature (T<sub>L</sub>)</b>	
Time at liquidous (t <sub>L</sub> )	60 - 150 seconds
Peak temperature (T <sub>p</sub> )	260+0/-5°C
Time within 5°C of actual peak Temperature (t <sub>p</sub> )	30 seconds
Average ramp-down rate (T <sub>p</sub> to T <sub>max</sub> )	6°C/second max.
Time 25 °C to peak temperature	8 minutes max.

### Temperature Derating Curve



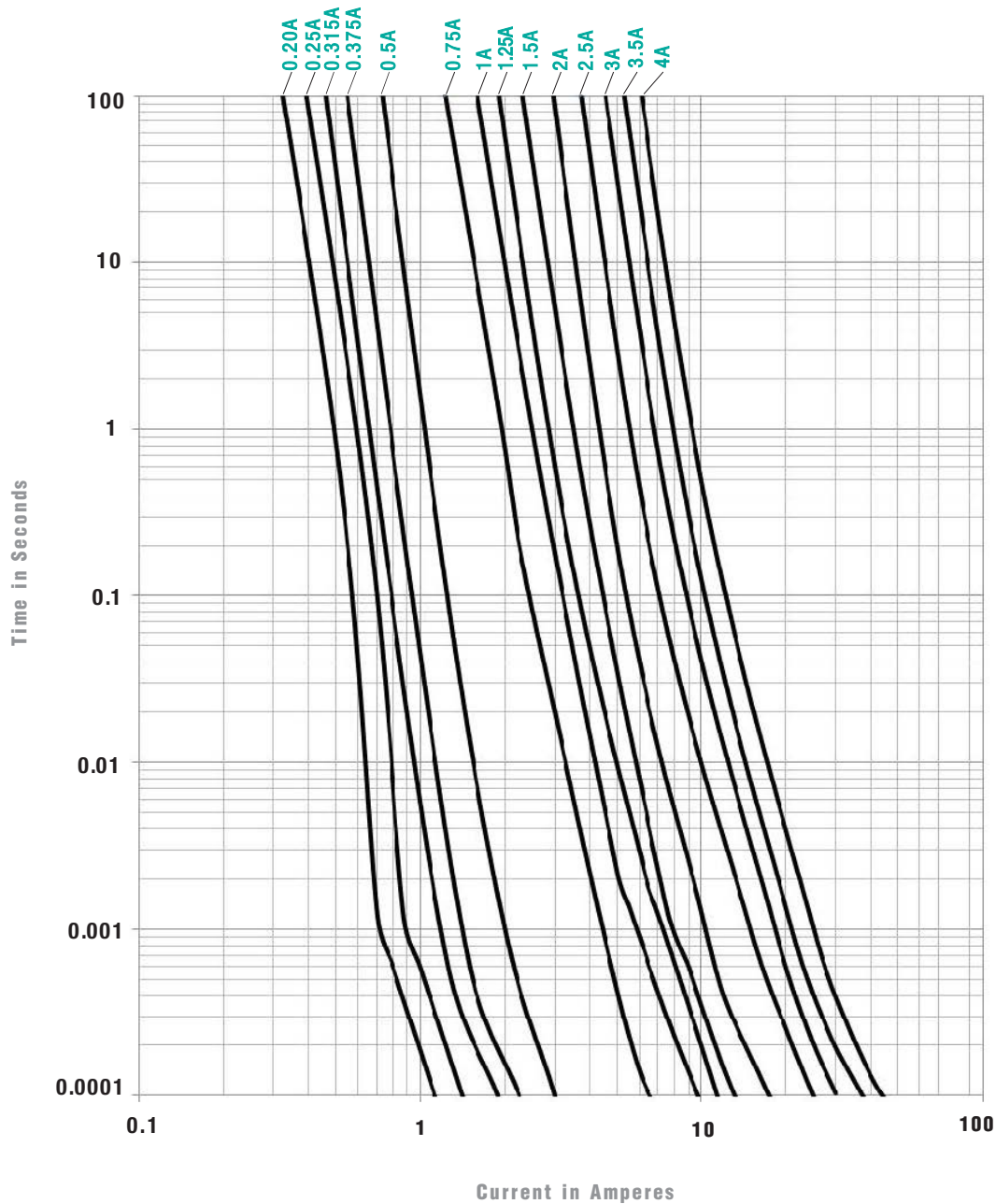
- Normal ambient temperature: 23+/-3°C
- Operating temperature: -55 ~ 150°C, with proper correction factor applied

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Average Time Current Curves



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