

Fast Acting | 0.126x0.064 inch Thick Film Chip Fuses

1206FA Series

1206FA Series are the fuses set the industry standard for performance, reliability and quality. The solder-free design provides excellent on-off and temperature cycling characteristics during use and also makes our SMD fuses more heat and shock tolerant than typical subminiature fuses.

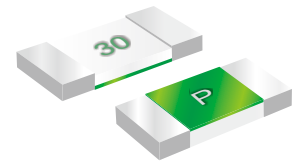


Features

- Compatible with reflow and wave solder
- Ceramic and glass construction
- Halogen free, lead free and RoHS compliant
- Excellent environmental integrity
- One time positive disconnect
- AEC-Q200 Automotive Grade Certified

Applications

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



Electrical Characteristics

| Amp Rating | % of Amp Rating | Opening Time |
|------------|-----------------|----------------|
| 0.25~40A | 100% | 4 Hours Min. |
| 0.25~5A | 250% | 5 Seconds Max. |
| 6~40A | 350% | 5 Seconds Max. |

Specification

| Part Number | Ampere Rating (A) | Voltage Rating | Interrupting Rating | Typical Cold Resistance (Ohms) | Typical Melting I ² t (A ² Sec) | Typical Voltage Drop (V) | Marking Code |
|-------------|-------------------|---|---------------------|--------------------------------|---|--------------------------|--------------|
| 1206FA-R250 | 0.250 | | | 3.610 | 0.0004 | 1.402 | .25 |
| 1206FA-R375 | 0.375 | | | 1.891 | 0.0008 | 0.716 | E |
| 1206FA-R500 | 0.500 | | | 1.026 | 0.0020 | 0.652 | 0.5 |
| 1206FA-R750 | 0.750 | | | 0.605 | 0.0056 | 0.620 | .75 |
| 1206FA-1A | 1.00 | 72Vdc @ 50A 32Vdc @ 150A 24Vdc @ 300A | | 0.484 | 0.105 | 0.511 | H |
| 1206FA-1.5A | 1.50 | | | 0.249 | 0.151 | 0.365 | K |
| 1206FA-2A | 2.00 | | | 0.131 | 0.427 | 0.313 | N |
| 1206FA-2.5A | 2.50 | | | 0.077 | 0.675 | 0.240 | O |
| 1206FA-3A | 3.00 | | | 0.048 | 1.396 | 0.185 | P |
| 1206FA-3.5A | 3.50 | | | 0.039 | 1.683 | 0.181 | R |
| 1206FA-4A | 4.00 | | | 0.035 | 1.745 | 0.175 | S |
| 1206FA-4.5A | 4.50 | | | 0.031 | 2.666 | 0.168 | X |
| 1206FA-5A | 5.00 | 32Vdc @ 150A 24Vdc @ 300A | | 0.026 | 2.923 | 0.142 | T |
| 1206FA-6A | 6.00 | | | 0.016 | 11.20 | 0.140 | F |
| 1206FA-7A | 7.00 | | | 0.012 | 12.62 | 0.141 | 7 |
| 1206FA-8A | 8.00 | | | 0.008 | 14.00 | 0.099 | M |
| 1206FA-10A | 10.0 | | | 0.0065 | 20.55 | 0.100 | U |
| 1206FA-12A | 12.0 | 32Vdc @ 150A 24Vdc @ 300A | | 0.0048 | 12.00 | 0.086 | 12 |
| 1206FA-15A | 15.0 | | | 0.0039 | 16.32 | 0.077 | 15 |
| 1206FA-20A | 20.0 | | | 0.0018 | 48.02 | 0.061 | 20 |
| 1206FA-25A | 25.0 | | | 0.0016 | 33.03 | 0.058 | 25 |
| 1206FA-30A | 30.0 | | | 0.0012 | 44.10 | 0.070 | 30 |
| 1206FA-40A | 40.0 | 32Vdc @ 200A | | 0.0086 | 160.3 | 0.097 | XL |

- DC Interrupting Rating - Measured at designated voltage, time constant < 50 microseconds.
- DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25°C.
- Typical Melting I²t measured at 10In Current.
- Typical Voltage Drop measured at rated current after temperature has stabilized.

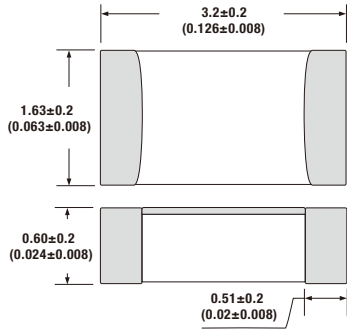
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Thick Film Chip Fuses

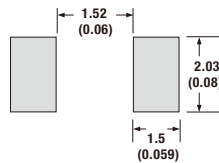
1206FA Series

Dimension

Unit: mm/inch



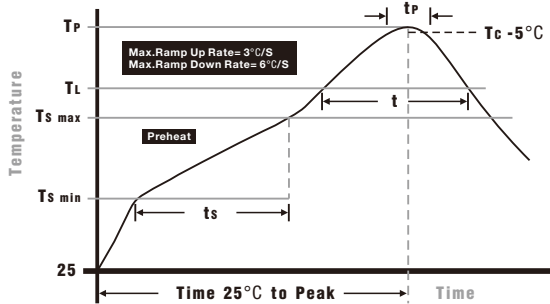
Pad layout



Packaging

- Quantity: 3,000pcs
- 8mm wide tape on 178mm(7 inch) diameter reel -specification EIA Standard 481.

Soldering Parameters

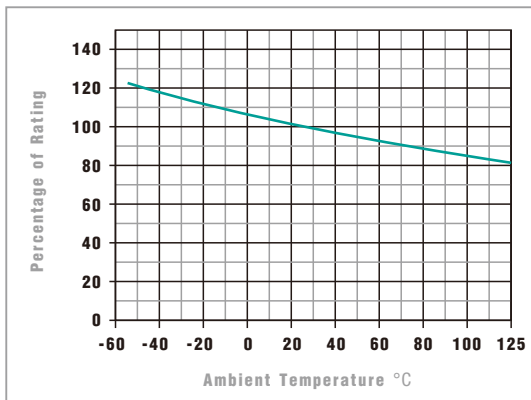


Wave Soldering: 260°C, 10 seconds max.
Infrared Reflow: 260°C, 30 seconds max.

IR Reflow Profile

| | |
|---|------------------|
| Preheat Heat | |
| Temperature min (T _{smin}) | 150°C |
| Temperature max (T _{smax}) | 200°C |
| Time (T _{smin} to T _{smax}) (ts) | 60 -120 seconds |
| Average ramp-up rate (T_{smax} to T_p) | |
| | 3°C/second max. |
| Liquidous temperature (T_l) | |
| Time at liquidous (t _l) | 60 - 150 seconds |
| Peak temperature(T_p) | |
| | 260+0/-5°C |
| Time within 5°C of actual peak Temperature (tp) | |
| | 10 - 30 seconds |
| Average ramp-down rate (T_p to T_{smax}) | |
| | 6°C/second max. |
| Time 25 °C to peak temperature | |
| | 8 minutes max. |

Temperature Derating Curve



- Normal Operating Temperature: 23°C± 2
- Operating Temperature: -55 to 125°C
- The fuse rating is determined by the equation below:

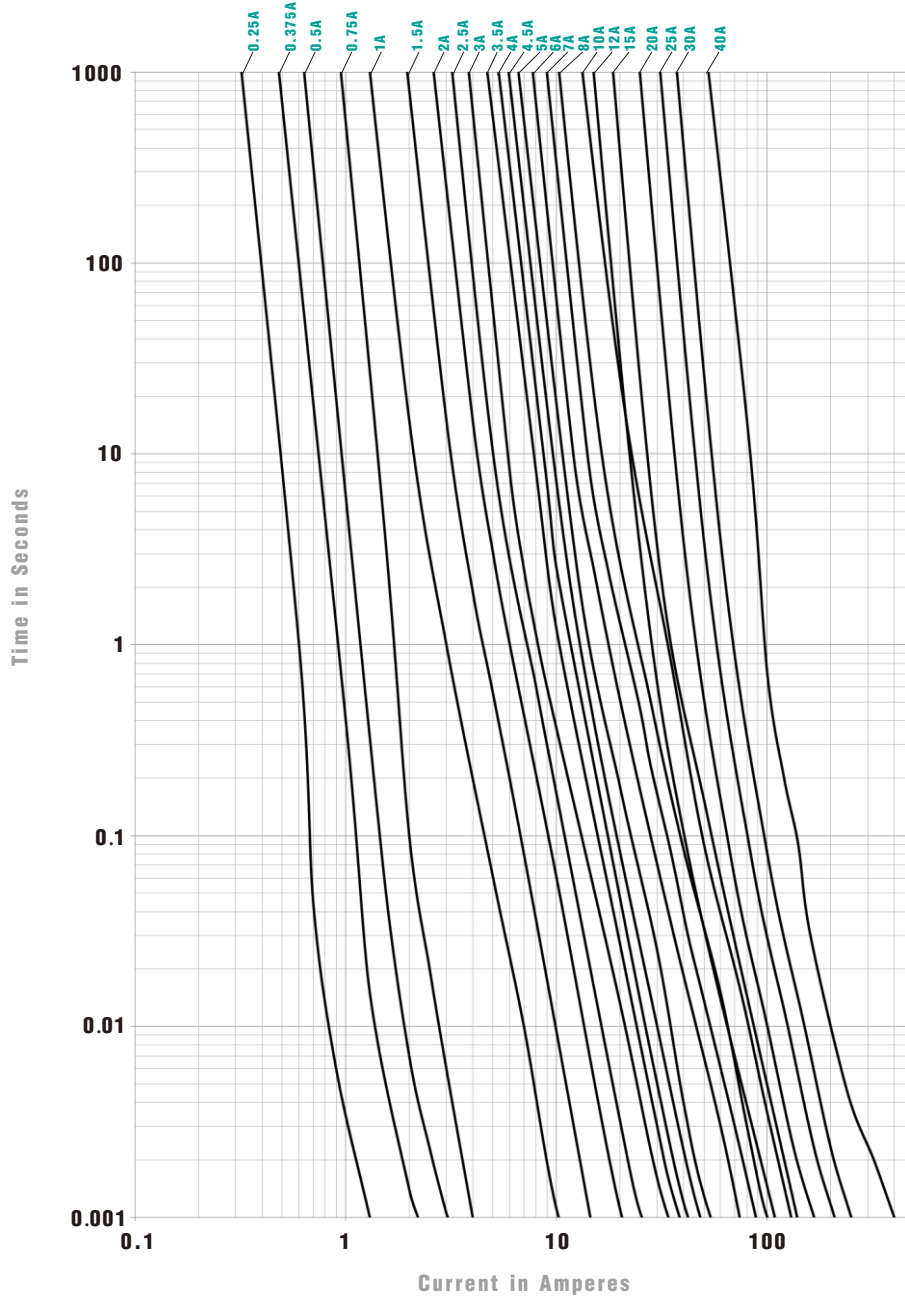
$$I_n = \frac{I_{\text{input max.}}}{0.70 \times K_{\text{temp}}}$$

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Average Time Current Curves



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