

# Time Delay | 0.126x0.064 inch Thick Film Chip Fuses

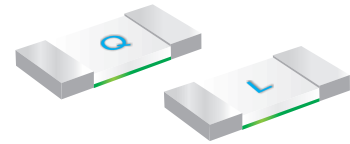
## 1206TD AS

1206TD 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   |
|------------|-----------------|----------------|
| 4.5~40A    | 100%            | 4 Hours Min.   |
| 4.5~5A     | 250%            | 5 Seconds Max. |
| 4.5~5A     | 300%            | 0.1sec~3sec    |
| 6~40A      | 350%            | 5 Seconds Max. |
| 4.5~5A     | 1000%           | 0.2ms~20ms     |
| 6~40A      |                 | 0.2ms~10ms     |

### Specifications

| Part Number  | Ampere Rating (A) | Voltage Rating | Interrupting Rating | Typical Cold Resistance (Ohms) | Typical Melting I <sup>2</sup> t (A <sup>2</sup> Sec) | Typical Voltage Drop (V) | Marking Code |
|--------------|-------------------|----------------|---------------------|--------------------------------|---|--------------------------|--------------|
| 1206TD-4.5AS | 4.50              | 72Vdc @ 50A    |                     | 0.022                          | 3.7   | 0.17                     | X            |
| 1206TD-5AS   | 5.00              |                |                     | 0.019                          | 5   | 0.142                    | T            |
| 1206TD-6AS   | 6.00              |                |                     | 0.015                          | 12.2  | 0.138                    | F            |
| 1206TD-7AS   | 7.00              |                |                     | 0.010                          | 15  | 0.12                     | 7            |
| 1206TD-8AS   | 8.00              |                |                     | 0.007                          | 17  | 0.097                    | V            |
| 1206TD-10AS  | 10.0              | 48Vdc @ 150A   |                     | 0.0065                         | 23  | 0.099                    | U            |
| 1206TD-12AS  | 12.0              |                |                     | 0.005                          | 41  | 0.087                    | W            |
| 1206TD-15AS  | 15.0              |                |                     | 0.0033                         | 44  | 0.075                    | Y            |
| 1206TD-20AS  | 20.0              | 32Vdc @ 150A   |                     | 0.0027                         | 52  | 0.089                    | Q            |
| 1206TD-25AS  | 25.0              |                |                     | 0.0022                         | 60  | 0.091                    | L            |
| 1206TD-30AS  | 30.0              |                |                     | 0.0019                         | 100   | 0.090                    | Z            |
| 1206TD-40AS  | 40.0              | 35Vdc @ 200A   |                     | 0.0009                         | 163   | 0.096                    | XL           |
|              |                   | 26Vdc @ 300A   |                     |                                |   |                          |              |

- 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 I<sup>2</sup>t measured at 10In Current.
- Typical Voltage Drop measured at rated current after temperature has stabilized.

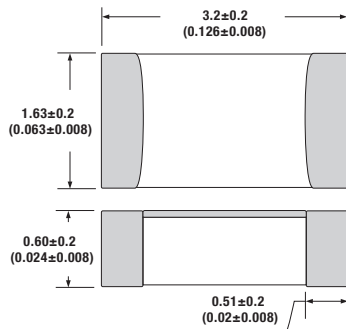
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## Thick Film Chip Fuses

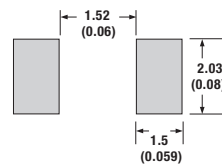
## 1206TD S

### Dimension

Unit: mm/inch



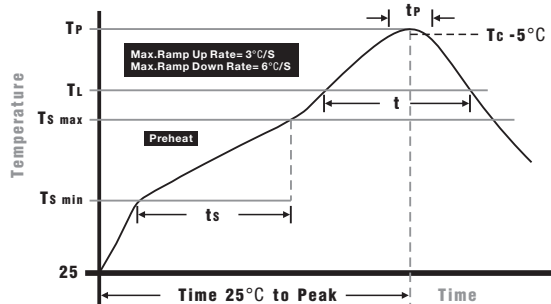
### Pad layout



### Packaging

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

### Soldering Parameters

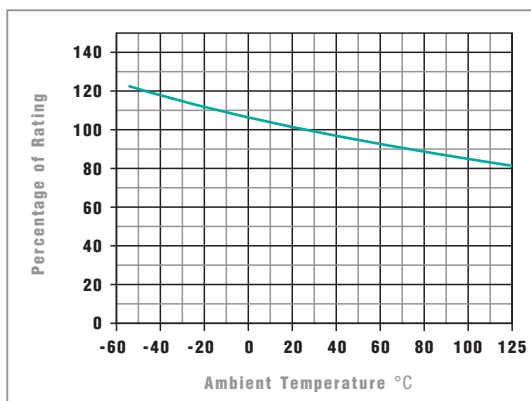


Wave Soldering: 260°C, 10 seconds max.  
Infrared Reflow: 260°C, 30 seconds max.

### IR Reflow Profile

|   |                  |
|---|------------------|
| <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 |
| <b>Average ramp-up rate (T<sub>max</sub> to T<sub>p</sub>)</b>    |                  |
|   | 3°C/second max.  |
| <b>Liquidous temperature (T<sub>l</sub>)</b>                      |                  |
| Time at liquidous (t <sub>l</sub> )                               | 60 - 150 seconds |
| <b>Peak temperature (T<sub>p</sub>)</b>                           |                  |
|   | 260+0/-5°C       |
| <b>Time within 5°C of actual peak Temperature (t<sub>p</sub>)</b> |                  |
|   | 10 - 30 seconds  |
| <b>Average ramp-down rate (T<sub>p</sub> to T<sub>max</sub>)</b>  |                  |
|   | 6°C/second max.  |
| <b>Time 25 °C to peak temperature</b>                             |                  |
|   | 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:

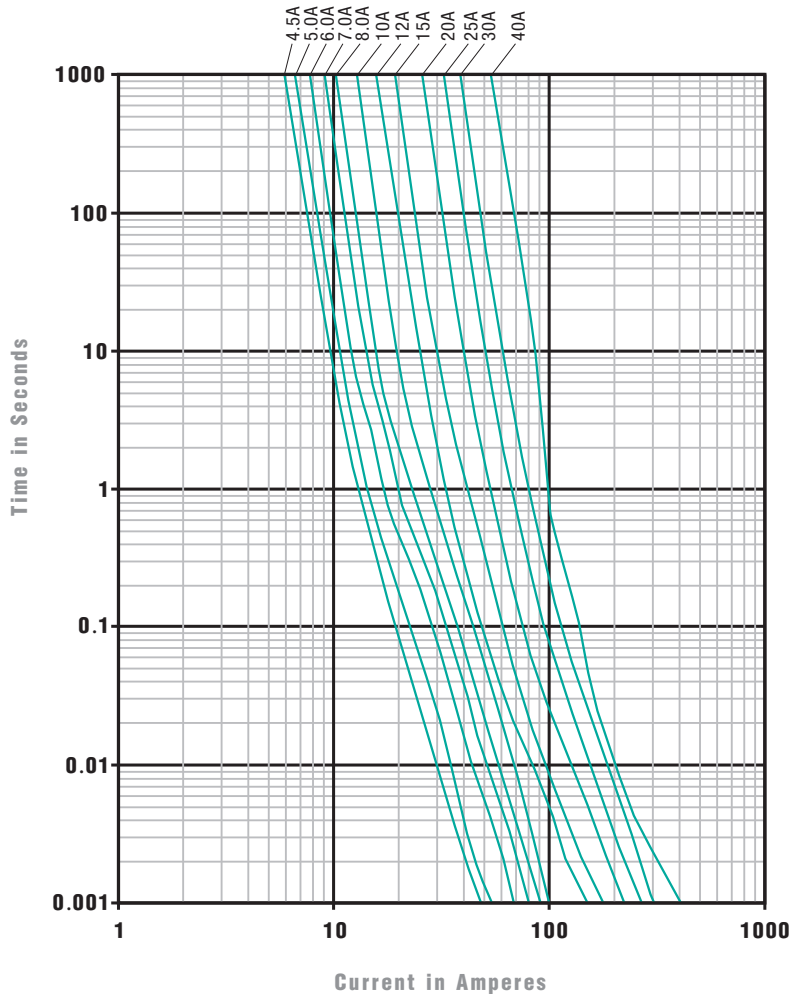
$$I_n = \frac{I_{\text{input max.}}}{0.70 \times K_{\text{temp}}}$$

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Thick Film Chip Fuses

1206TD S

Average Time Current Curves



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