

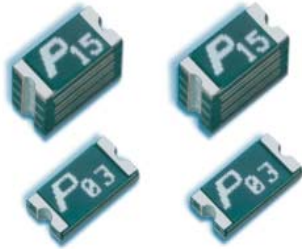


**THE DATASHEET OF  
SMD1206P020TSA**



# SMD1206

This product is not recommended for new designs. Please refer to Littelfuse No. 1206L.



## SMD Type, 6 V - 30 V

### Standard

UL 1434 1<sup>st</sup> Edition  
CSA C22.2 No. 0 CSA TIL No. CA-3A

### Approvals

cULus Recognition  
TÜV

### Features

This product line enables installation in limited space applications. These devices offer wide range in hold currents from 0.125 A to 1.50 A and voltages from 6 V to 30 V. The SMD1206 product line is suitable for high density circuit board applications in computers, cellular phone and general electronics.  
Suitable for reflow soldering

## Specifications

### Packaging

A Blister tape and reel Ø 178 mm

### Materials

Terminals: Solder-plated copper  
TS: Solder Material: 63/37 SnPb  
TF: Lead free plating on request

**Max. Device Surface Temperature in Tripped State**  
125 °C

### Operating / Storage Temperature

-40 °C to +85 °C (consider derating)

### Humidity Ageing

+85 °C, 85% R.H., 1000 hours, ± 5 % typical resistance change

### Vibration

MIL-STD-883C, Method 2007.1, Condition A, no change

### Thermal Shock

MIL-STD-202F, Method 107G  
+85 °C to -40 °C 20 times, -30 % typical resistance change

### Solderability

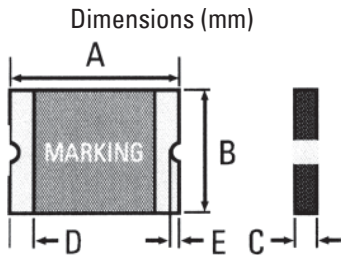
Meets EIA Specification RS186-9E,  
ANSI/J-STD-002, Category 3  
Reflow only

### Solvent Resistance

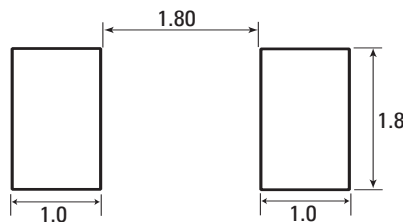
MIL-STD-202, Method 215, no change

### Marking

"P", Part Code



Solder pad Layout (mm)



\* only type "TF"

| Dimensions (mm)     |      |      |      |      |      |      |      |      |      |                            |
|---------------------|------|------|------|------|------|------|------|------|------|----------------------------|
| Model               | A    |      | B    |      | C    |      | D    | E    |      | packaging quantity<br>tape |
|                     | Min  | Max  | Min  | Max  | Min  | Max  |      | Min  | Max  |                            |
| SMD1206P012TS/TF    | 3.00 | 3.50 | 1.50 | 1.80 | 0.65 | 1.45 | 0.10 | 0.20 | 0.45 | 3.000                      |
| SMD1206P016TS/TF    | 3.00 | 3.50 | 1.50 | 1.80 | 0.65 | 1.45 | 0.10 | 0.20 | 0.45 | 3.000                      |
| SMD1206P020TS/TF    | 3.00 | 3.50 | 1.50 | 1.80 | 0.50 | 1.00 | 0.10 | 0.20 | 0.45 | 4.000                      |
| SMD1206P025TS/TF    | 3.00 | 3.50 | 1.50 | 1.80 | 0.50 | 1.00 | 0.10 | 0.20 | 0.45 | 4.000                      |
| SMD1206P035TS/TF    | 3.00 | 3.50 | 1.50 | 1.80 | 0.45 | 0.75 | 0.10 | 0.20 | 0.45 | 4.000                      |
| SMD1206P035TS/TF/15 | 3.00 | 3.50 | 1.50 | 1.80 | 0.45 | 0.75 | 0.10 | 0.20 | 0.45 | 4.000                      |
| SMD1206P050TS/TF    | 3.00 | 3.50 | 1.50 | 1.80 | 0.45 | 0.75 | 0.10 | 0.20 | 0.45 | 4.000                      |
| SMD1206P075TS/TF    | 3.00 | 3.50 | 1.50 | 1.80 | 0.45 | 1.25 | 0.10 | 0.20 | 0.45 | 3.000                      |
| SMD1206P100TS/TF    | 3.00 | 3.50 | 1.50 | 1.80 | 0.75 | 1.25 | 0.10 | 0.20 | 0.45 | 3.000                      |
| SMD1206P150TS/TF    | 3.00 | 3.50 | 1.50 | 1.80 | 1.00 | 1.60 | 0.10 | 0.20 | 0.45 | 2.000                      |

| Permissible continuous operating current is ≤ 100 % at ambient temperature of 20 °C (68 °F). |                          |                          |                             |                           |                              |                            |                       |                       |                         |                           |
|--|--------------------------|--------------------------|-----------------------------|---------------------------|------------------------------|----------------------------|-----------------------|-----------------------|-------------------------|---------------------------|
| Model  | I <sub>hold</sub><br>(A) | I <sub>trip</sub><br>(A) | V <sub>m.ax.dc</sub><br>(V) | I <sub>m.ax.</sub><br>(A) | max. time to trip<br>(s @ A) | P <sub>d max.</sub><br>(W) | Resistance            |                       |                         | Approvals<br>cULus<br>TÜV |
|  |                          |                          |                             |                           |                              |                            | R <sub>min.</sub> ( ) | R <sub>typ.</sub> ( ) | R <sub>l.max.</sub> ( ) |                           |
| SMD1206P012TS/TF   | 0.125                    | 0.29                     | 30                          | 40                        | 0.20 @ 1.00                  | 0.6                        | 1.500                 | 3.600                 | 6.000                   | • •                       |
| SMD1206P016TS/TF   | 0.160                    | 0.37                     | 30                          | 40                        | 0.30 @ 1.00                  | 0.6                        | 1.200                 | 2.800                 | 4.500                   | • •                       |
| SMD1206P020TS/TF   | 0.200                    | 0.40                     | 16                          | 40                        | 0.05 @ 8.00                  | 0.6                        | 0.600                 | 1.550                 | 2.500                   | • •                       |
| SMD1206P025TS/TF   | 0.250                    | 0.50                     | 16                          | 40                        | 0.08 @ 8.00                  | 0.6                        | 0.550                 | 1.400                 | 2.300                   | • •                       |
| SMD1206P035TS/TF   | 0.350                    | 0.75                     | 6                           | 40                        | 0.10 @ 8.00                  | 0.6                        | 0.300                 | 0.750                 | 1.200                   | • •                       |
| SMD1206P035TS/TF/15  | 0.350                    | 0.75                     | 15                          | 40                        | 0.10 @ 8.00                  | 0.6                        | 0.300                 | 0.750                 | 1.200                   | • •                       |
| SMD1206P050TS/TF   | 0.500                    | 1.00                     | 6                           | 40                        | 0.10 @ 8.00                  | 0.6                        | 0.150                 | 0.400                 | 0.700                   | • •                       |
| SMD1206P075TS/TF   | 0.750                    | 1.50                     | 6                           | 40                        | 0.20 @ 8.00                  | 0.6                        | 0.090                 | 0.200                 | 0.290                   | • •                       |
| SMD1206P100TS/TF   | 1.000                    | 1.80                     | 6                           | 40                        | 0.30 @ 8.00                  | 0.6                        | 0.055                 | 0.110                 | 0.210                   | • •                       |
| SMD1206P150TS/TF   | 1.500                    | 3.00                     | 6                           | 40                        | 1.00 @ 8.00                  | 0.8                        | 0.040                 | 0.080                 | 0.120                   | • •                       |

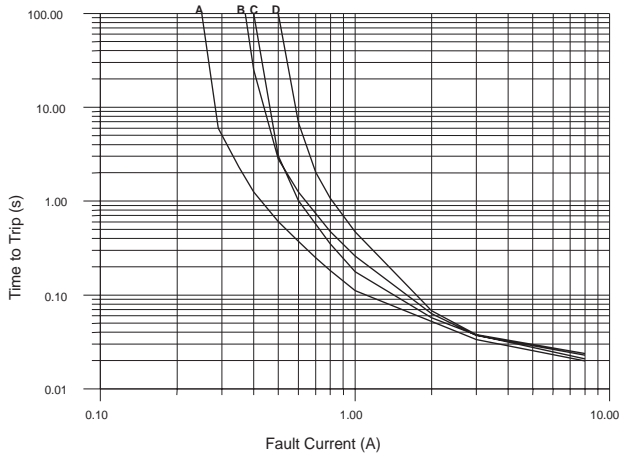
Please choose TS for SnPb and TF for Sn plating

NOTE:  
I<sub>hold</sub> = Hold current: maximum current device will pass without tripping in 20 °C still air.  
I<sub>trip</sub> = Trip current: minimum current at which the device will trip in 20 °C still air.  
V<sub>m.ax.</sub> = Maximum voltage device can withstand without damage at rated current (I<sub>m.ax.</sub>)  
I<sub>m.ax.</sub> = Maximum fault current device can withstand without damage at rated voltage (V<sub>m.ax.</sub>)

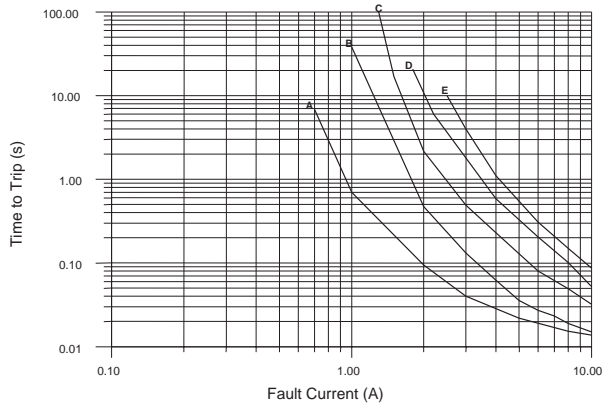
P<sub>d</sub> = Power dissipated from device when in the tripped state at 20 °C still air.  
R<sub>min.</sub> = Minimum resistance of device in initial (un-soldered) state.  
R<sub>l.max.</sub> = Maximum resistance of device at 20 °C measured one hour after tripping for 20 s.  
**Caution: Operation beyond the specified rating may result in damage and possible arcing and flame. Specifications are subject to change without notice**

| Order Information | Qty. | Order-<br>Number | Model | Packaging |
|-------------------|------|------------------|-------|-----------|
|                   |      |                  |       |           |

## SMD1206



A: SMD1206P012TS/TF  
 B: SMD1206P016TS/TF  
 C: SMD1206P020TS/TF  
 D: SMD1206P025TS/TF





A: SMD1206P035TS/TF  
 B: SMD1206P050TS/TF  
 C: SMD1206P075TS/TF  
 D: SMD1206P100TS/TF  
 E: SMD1206P150TS/TF

### Thermal Derating Chart

| Model               | Ambient Operation Temperature - I <sub>hold</sub> (A) |        |      |       |       |       |       |       |       |
|---------------------|---|--------|------|-------|-------|-------|-------|-------|-------|
|                     | -40 °C  | -20 °C | 0 °C | 23 °C | 40 °C | 50 °C | 60 °C | 70 °C | 85 °C |
| SMD1206P012TS/TF    | 0.18  | 0.16   | 0.14 | 0.125 | 0.10  | 0.09  | 0.08  | 0.07  | 0.05  |
| SMD1206P016TS/TF    | 0.22  | 0.20   | 0.18 | 0.16  | 0.14  | 0.12  | 0.10  | 0.09  | 0.08  |
| SMD1206P020TS/TF    | 0.28  | 0.25   | 0.23 | 0.20  | 0.17  | 0.15  | 0.14  | 0.12  | 0.09  |
| SMD1206P025TS/TF    | 0.37  | 0.33   | 0.29 | 0.25  | 0.22  | 0.20  | 0.17  | 0.15  | 0.12  |
| SMD1206P035TS/TF    | 0.50  | 0.45   | 0.40 | 0.35  | 0.30  | 0.27  | 0.24  | 0.21  | 0.15  |
| SMD1206P035TS/TF/15 | 0.50  | 0.65   | 0.40 | 0.35  | 0.30  | 0.27  | 0.24  | 0.21  | 0.15  |
| SMD1206P050TS/TF    | 0.71  | 0.64   | 0.57 | 0.50  | 0.42  | 0.39  | 0.35  | 0.31  | 0.25  |
| SMD1206P075TS/TF    | 1.14  | 1.01   | 0.88 | 0.75  | 0.65  | 0.59  | 0.54  | 0.49  | 0.41  |
| SMD1206P100TS/TF    | 1.45  | 1.31   | 1.15 | 1.00  | 0.84  | 0.77  | 0.69  | 0.61  | 0.48  |
| SMD1206P150TS/TF    | 2.18  | 1.94   | 1.72 | 1.50  | 1.28  | 1.17  | 1.06  | 0.96  | 0.77  |

## Looking for pricing, stock, or lifecycle information?

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