



**THE DATASHEET OF
SMD1210P050TFA**



SMD1210



SMD Type, 6 V - 30 V

Standard

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

Approvals

cULus Recognition
TÜV

Features

This product line is designed for surface-mount applications with a range in hold currents from 50 mA to 1.5 A and voltages from 6 V to 30 V. These smaller devices (1210-mil footprint) are ideally suited for palm PC, PDAs and applications where space is constrained and circuit protection is required. 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 de-rating)

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

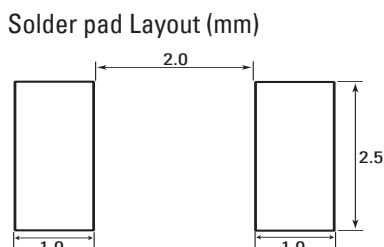
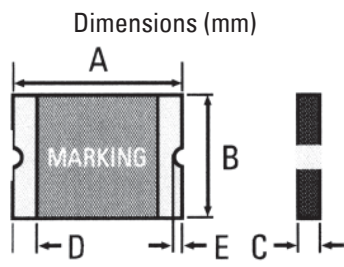
Vibration
MIL-STD-883C, Method 2007.1, Condition A, no change

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



| Dimensions (mm) | | | | | | | | | | |
|------------------|------|------|------|------|------|------|------|------|------|-------------------------|
| Model | A | | B | | C | | D | E | | packaging quantity tape |
| | Min | Max | Min | Max | Min | Max | | Min | Max | |
| SMD1210P005TS/TF | 3.00 | 3.43 | 2.35 | 2.80 | 0.75 | 1.25 | 0.25 | 0.20 | 0.50 | 3.000 |
| SMD1210P010TS/TF | 3.00 | 3.43 | 2.35 | 2.80 | 0.75 | 1.25 | 0.25 | 0.20 | 0.50 | 3.000 |
| SMD1210P020TS/TF | 3.00 | 3.43 | 2.35 | 2.80 | 0.60 | 1.00 | 0.25 | 0.20 | 0.50 | 3.000 |
| SMD1210P035TS/TF | 3.00 | 3.43 | 2.35 | 2.80 | 0.50 | 0.85 | 0.25 | 0.20 | 0.50 | 4.000 |
| SMD1210P050TS/TF | 3.00 | 3.43 | 2.35 | 2.80 | 0.50 | 0.85 | 0.25 | 0.20 | 0.50 | 4.000 |
| SMD1210P075TS/TF | 3.00 | 3.43 | 2.35 | 2.80 | 0.50 | 0.85 | 0.25 | 0.20 | 0.50 | 4.000 |
| SMD1210P110TS/TF | 3.00 | 3.43 | 2.35 | 2.80 | 0.90 | 1.30 | 0.25 | 0.20 | 0.50 | 3.000 |
| SMD1210P150TS/TF | 3.00 | 3.43 | 2.35 | 2.80 | 1.00 | 1.60 | 0.25 | 0.20 | 0.50 | 2.000 |

| Permissible continuous operating current is ≤ 100 % at ambient temperature of 20 °C (68 °F). | | | | | | | | | | | |
|--|-----------------------|-----------------------|--------------------------|-----------------------|---------------------------|-------------------------|-----------------------|-----------------------|-------------------------|-----------|-----|
| Model | I _{hold} (A) | I _{trip} (A) | V _{max. dc} (V) | I _{max.} (A) | max. time to trip (s @ A) | P _{d max.} (W) | Resistance | | | Approvals | |
| | | | | | | | R _{min.} (Ω) | R _{typ.} (Ω) | R _{I max.} (Ω) | cUL | TÜV |
| SMD1210P005TS/TF | 0.05 | 0.15 | 30 | 10 | 1.50 @ 0.25 | 0.6 | 3.600 | 25.000 | 50.000 | • | • |
| SMD1210P010TS/TF | 0.10 | 0.30 | 30 | 10 | 1.50 @ 0.50 | 0.6 | 1.600 | 7.000 | 15.000 | • | • |
| SMD1210P020TS/TF | 0.20 | 0.40 | 30 | 10 | 0.02 @ 8.00 | 0.6 | 0.800 | 2.900 | 5.000 | • | • |
| SMD1210P035TS/TF | 0.35 | 0.70 | 6 | 40 | 0.20 @ 8.00 | 0.6 | 0.320 | 0.810 | 1.300 | • | • |
| SMD1210P050TS/TF | 0.50 | 1.00 | 13.2 | 40 | 0.10 @ 8.00 | 0.6 | 0.250 | 0.550 | 0.900 | • | • |
| SMD1210P075TS/TF | 0.75 | 1.50 | 6 | 40 | 0.10 @ 8.00 | 0.6 | 0.130 | 0.290 | 0.400 | • | • |
| SMD1210P110TS/TF | 1.10 | 2.20 | 6 | 40 | 0.30 @ 8.00 | 0.6 | 0.060 | 0.140 | 0.210 | • | • |
| SMD1210P150TS/TF | 1.50 | 3.00 | 6 | 40 | 0.50 @ 8.00 | 0.8 | 0.040 | 0.070 | 0.110 | • | • |

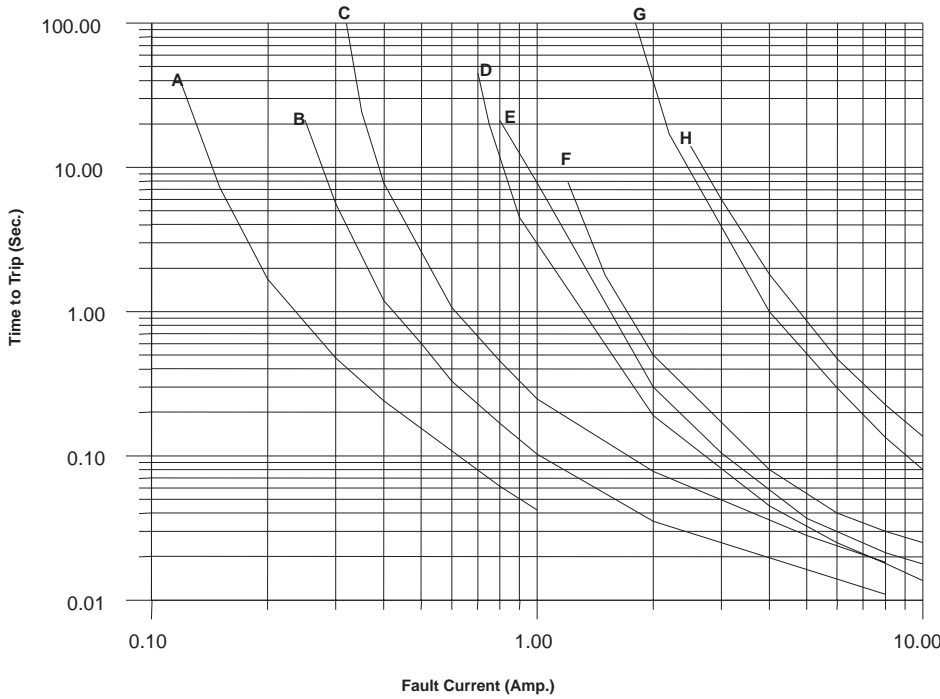
Please choose TS for SnPb and TF for Sn plating

NOTE:
I_{hold} = Hold current: maximum current device will pass without tripping in 20 °C still air.
I_{trip} = Trip current: minimum current at which the device will trip in 20 °C still air.
V_{max.} = Maximum voltage device can withstand without damage at rated current (I_{max.})
I_{max.} = Maximum fault current device can withstand without damage at rated voltage (V_{max.})

P_d = Power dissipated from device when in the tripped state at 20 °C still air.
R_{min.} = Minimum resistance of device in initial (un-soldered) state.
R_{I max.} = 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-Number | Model | Packaging |
| | | | | |

SMD1210





- A: SMD1210P005TS/TF
- B: SMD1210P010TS/TF
- C: SMD1210P020TS/TF
- D: SMD1210P035TS/TF
- E: SMD1210P050TS/TF
- F: SMD1210P075TS/TF
- G: SMD1210P110TS/TF
- H: SMD1210P150TS/TF

Thermal Derating Chart

| Model | Ambient Operation Temperature - I_{hold} (A) | | | | | | | | |
|------------------|--|--------|------|-------|-------|-------|-------|-------|-------|
| | -40 °C | -20 °C | 0 °C | 23 °C | 40 °C | 50 °C | 60 °C | 70 °C | 85 °C |
| SMD1210P005TS/TF | 0.08 | 0.07 | 0.06 | 0.05 | 0.04 | 0.04 | 0.03 | 0.03 | 0.02 |
| SMD1210P010TS/TF | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 | 0.07 | 0.06 | 0.05 | 0.03 |
| SMD1210P020TS/TF | 0.29 | 0.26 | 0.22 | 0.20 | 0.16 | 0.14 | 0.13 | 0.11 | 0.08 |
| SMD1210P035TS/TF | 0.47 | 0.45 | 0.40 | 0.35 | 0.33 | 0.28 | 0.24 | 0.21 | 0.18 |
| SMD1210P050TS/TF | 0.76 | 0.67 | 0.58 | 0.50 | 0.43 | 0.40 | 0.36 | 0.32 | 0.28 |
| SMD1210P075TS/TF | 1.00 | 0.97 | 0.86 | 0.75 | 0.64 | 0.59 | 0.54 | 0.48 | 0.40 |
| SMD1210P110TS/TF | 1.69 | 1.48 | 1.29 | 1.10 | 0.88 | 0.76 | 0.65 | 0.57 | 0.43 |
| SMD1210P150TS/TF | 2.13 | 1.92 | 1.71 | 1.50 | 1.26 | 1.14 | 1.01 | 0.89 | 0.71 |

Looking for pricing, stock, or lifecycle information?

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-  [Littelfuse Inc. Information](#)

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-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management