



**THE DATASHEET OF  
SMD1210P020TSA**



# SMD1210



## 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 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

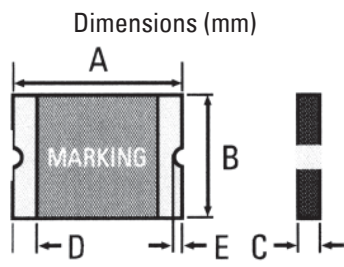
**Vibration**  
MIL-STD-883C, Method 2007.1, Condition A, no change

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

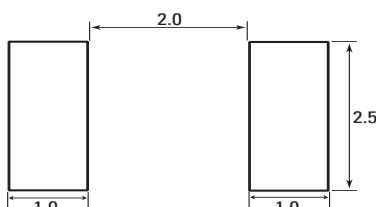
**Solderability**  
Meets EIA Specification RS186-9E,  
ANSI/J-STD-002, Category 3  
Reflow only

**Solvent Resistance**  
MIL-STD-202, Method 215, no change

**Marking**  
"P", Part Code



Solder pad Layout (mm)



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 <sub>hold</sub> (A)	I <sub>Trip</sub> (A)	V <sub>max. dc</sub> (V)	I <sub>max.</sub> (A)	max. time to trip (s @ A)	P <sub>d max.</sub> (W)	Resistance			Approvals	
							R <sub>min.</sub> (Ω)	R <sub>typ.</sub> (Ω)	R <sub>I max.</sub> (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	•	•

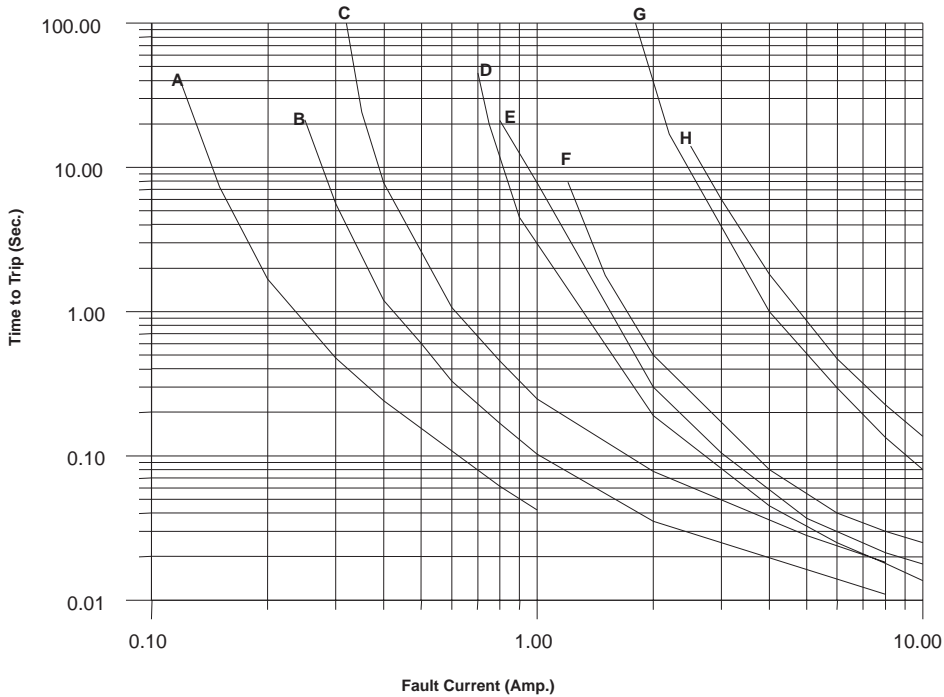
Please choose TS for SnPb and TF for Sn plating

NOTE:  
I<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>max.</sub> = Maximum voltage device can withstand without damage at rated current (I<sub>max.</sub>)  
I<sub>max.</sub> = Maximum fault current device can withstand without damage at rated voltage (V<sub>max.</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>I 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-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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