



Application:	All high-density boards
Product Features:	Small surface mount, Solid state Faster time to trip than standard SMD devices Lower resistance than standard SMD devices
Operation Current:	50mA~1.50A
Maximum Voltage:	6V~60VDC
Temperature Range:	-40°C to 85°C
Agency Recognition:	UL, C-UL, TÜV

Electrical Characteristics (23°C)

Part Number	Hold Current	Trip Current	Rated Voltage	Maximum Current	Typical Power	Max Time to Trip		Resistance Tolerance	
	I _H , A	I _T , A	V _{MAX} , VDC	I _{MAX} , A	P _d , W	Current	Time	R _{MIN}	R _{1MAX}
								ohms	ohms
SMD1210-005-60R	0.05	0.15	60	100	0.60	0.25	1.50	3.600	50.000
SMD1210-010-60R	0.10	0.25	60	100	0.60	0.50	1.50	1.600	15.000
SMD1210-020-30R	0.20	0.40	30	100	0.60	8.00	0.02	0.800	5.000
SMD1210-035-20R	0.35	0.70	20	100	0.60	8.00	0.20	0.320	1.300
SMD1210-050-16R	0.50	1.00	16	100	0.60	8.00	0.10	0.250	0.900
SMD1210-075-8R	0.75	1.50	8	100	0.60	8.00	0.10	0.130	0.400
SMD1210-075-24R	0.75	1.50	24	100	0.60	8.00	0.10	0.130	0.400
SMD1210-110-8R	1.10	2.20	8	100	0.80	8.00	0.30	0.060	0.210
SMD1210-150-6R	1.50	3.00	6	100	0.80	8.00	0.50	0.040	0.110
SMD1210-175-6R	1.75	4.00	6	100	0.80	8.00	0.60	0.020	0.080
SMD1210-200-6R	2.00	4.00	6	100	0.80	8.00	1.00	0.015	0.070

I_H=Hold current-maximum current at which the device will not trip at 23°C still air.

I_T=Trip current-minimum current at which the device will always trip at 23°C still air.

V_{MAX}=Maximum voltage device can withstand without damage at its rated current.

I_{MAX}= Maximum fault current device can withstand without damage at rated voltage (V_{max}).

P_d=Typical power dissipated from device when in the tripped state in 23°C still air environment.

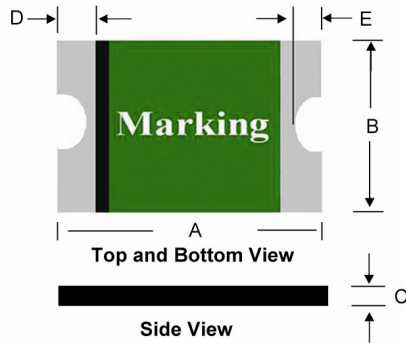
R_{MIN}=Minimum device resistance at 23°C.

R_{1MAX}=Maximum device resistance at 23°C, 1 hour after tripping .

Termination pad characteristics

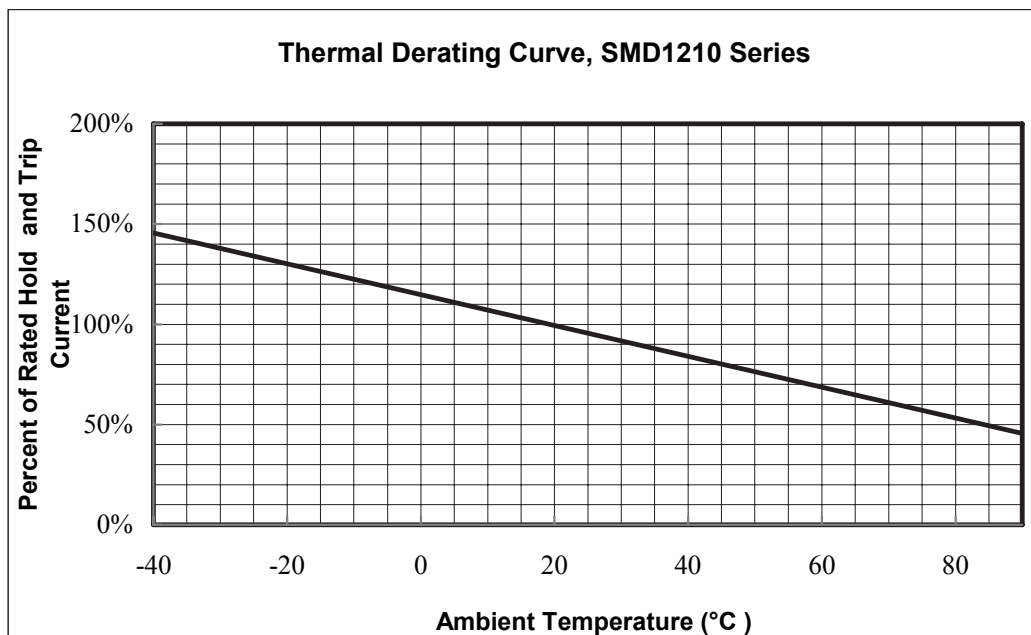
Termination pad materials: Tin-plated copper

SMD1210 Product Dimensions (Millimeters)



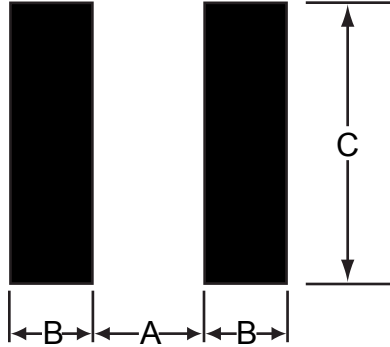
Part Number	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
SMD1210-005-60R	3.00	3.43	2.35	2.80	0.60	1.15	0.25	0.75	0.10	0.45
SMD1210-010-60R	3.00	3.43	2.35	2.80	0.60	1.15	0.25	0.75	0.10	0.45
SMD1210-020-30R	3.00	3.43	2.35	2.80	0.40	0.85	0.25	0.75	0.10	0.45
SMD1210-035-16R	3.00	3.43	2.35	2.80	0.40	0.80	0.25	0.75	0.10	0.45
SMD1210-050-16R	3.00	3.43	2.35	2.80	0.30	0.75	0.25	0.75	0.10	0.45
SMD1210-075-8R	3.00	3.43	2.35	2.80	0.30	0.70	0.25	0.75	0.10	0.45
SMD1210-075-24R	3.00	3.43	2.35	2.80	0.80	1.20	0.25	0.75	0.10	0.45
SMD1210-110-8R	3.00	3.43	2.35	2.80	0.60	1.00	0.25	0.75	0.10	0.45
SMD1210-150-6R	3.00	3.43	2.35	2.80	0.50	0.90	0.25	0.75	0.10	0.45
SMD1210-175-6R	3.00	3.43	2.35	2.80	0.80	1.40	0.25	0.75	0.10	0.45
SMD1210-200-6R	3.00	3.43	2.35	2.80	0.80	1.40	0.25	0.75	0.10	0.45

Thermal Derating Curve



Pad Layouts, Solder Reflow and Rework Recommendations

The dimension in the table below provide the recommended pad layout.



Pad dimensions (millimeters)			
Device	A	B	C
	Nominal	Nominal	Nominal
SMD1210 Series	2.00	1.00	2.80

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T_{smax} to T_p)	3°C / second max.
Preheat: Temperature Min (T _{smin}) Temperature Max (T _{smax}) Time (t _{smin} to t _{smax})	150°C 200°C 60-180 seconds
Time maintained above: Temperature (T _L) Time (t _L)	217°C 60-150 seconds
Peak / Classification Temperature (T_p):	260°C
Time within 5°C of actual peak: Temperature (tp)	20-40 seconds
Ramp-Down Rate:	6°C / second max.
Time 25°C to Peak Temperature:	8 minutes max.

SOLDER REFLOW

Due to "Lead Free" nature, Temperature and Dwelling Time for the soldering zone is higher than those for Regular. This may cause damage to other components

1. Recommended maximum paste thickness > 0.25mm.
2. Devices can be cleaned using standard methods and aqueous solvents.
3. Rework use standard industry practices.
4. Storage Environment: <30°C / 60%RH

CAUTION:

1. If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.
2. Devices are not designed to be wave soldered to the bottom side of the board.

