

FEATURES

- | I(hold): 0.05~2.00A
- | Very high voltage surge capabilities
- | Available in lead-free version
- | Fast response to fault current
- | RoHS compliant, Lead- Free and Halogen-Free
- | Low resistance
- | Compact design saves board space
- | Compatible with high temperature solders



APPLICATIONS

- | USB peripherals
- | Disk drives
- | CD-ROMs
- | General electronics
- | Set-top-box and HDMI
- | Mobile Internet Device (MID)
- | PDAs / digital cameras
- | Game console port protection
- | Plug and play protection for peripherals
- | Mobile phones - battery and port protection

ENVIRONMENTAL SPECIFICATIONS

Test	Conditions	Resistance change
Passive aging	85°C,1000hours	±10%
Humidity aging	85°C/85%RH.168 hours	±5%
Thermal shock	MIL-STD-202,Method 107G +85°C/-40°C,20times	±33% typical resistance change
Resistance to solvent	MIL-STD-202,Method 215	No change
Vibration	ML-STD-883C,Test Condition A	No change
Ambient operating conditions : - 40°C to +85°C		
Maximum surface temperature of the device in the tripped state is 125 °C		

PERFORMANCE SPECIFICATION

Type Number	I_{hold}	I_{trip}	V_{max}	Max. Time to Trip		I_{max}	$P_{d max}$	Ri_{min}	$R1_{max}$
	A	A	V_{DC}	Current A	T_{max} S	A	W	Ω	Ω
SMD1210-005	0.05	0.15	60	0.25	1.50	100	0.6	2.8	50
SMD1210-010	0.10	0.30	60	0.50	0.60	100	0.6	0.8	15
SMD1210-020	0.20	0.40	30	8.0	0.02	100	0.6	0.40	5
SMD1210-030	0.30	0.75	24	8.0	0.20	100	0.6	0.40	2.5
SMD1210-035-30	0.35	0.75	30	8.0	0.20	100	0.6	0.20	1.3
SMD1210-035	0.35	0.75	16	8.0	0.20	100	0.6	0.20	1.3
SMD1210-050	0.50	1.00	16	8.0	0.10	100	0.6	0.18	0.9
SMD1210-050-30	0.50	1.00	30	8.0	0.10	100	0.6	0.180	0.9
SMD1210-075	0.75	1.50	6	8.0	0.10	100	0.6	0.07	0.4
SMD1210-075-16	0.75	1.50	16	8.0	0.10	100	0.6	0.07	0.45
SMD1210-075-24	0.75	1.50	24	8.0	0.10	100	0.6	0.07	0.45
SMD1210-100	1.00	2.00	12	8.0	0.30	100	0.6	0.05	0.27
SMD1210-110	1.10	2.20	6	8.0	0.30	100	0.6	0.05	0.21
SMD1210-110-12	1.10	2.20	12	8.0	0.30	100	0.8	0.05	0.25
SMD1210-110-16	1.10	2.20	16	8.0	0.30	100	0.8	0.05	0.25
SMD1210-150	1.50	3.00	6	8.0	0.50	100	0.8	0.03	0.11
SMD1210-175	1.75	3.50	6	8.0	0.60	100	0.8	0.02	0.08
SMD1210-200	2.00	4.00	6	8.0	1.00	100	0.8	0.015	0.07

V_{max} = Maximum operating 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}).

I_{hold} = Hold Current. Maximum current device will not trip in 25°C still air.

I_{trip} = Trip Current. Minimum current at which the device will always trip in 25°C still air.

P_d = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.

$Ri_{min/max}$ = Minimum/Maximum device resistance prior to tripping at 25°C.

$R1_{max}$ = Maximum device resistance is measured one hour post reflow.

THERMAL DERATING CHART-IH(A)

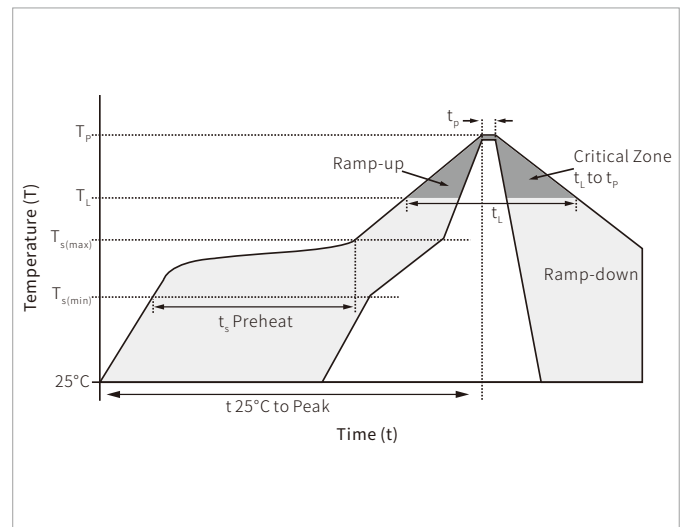
Part Number	Ambient Operation Temperature								
	-40 °C	-20 °C	0 °C	25 °C	40 °C	50 °C	60 °C	70 °C	85 °C
SMD1210-005	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.02
SMD1210-010	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.05	0.05
SMD1210-020	0.29	0.26	0.22	0.20	0.16	0.14	0.13	0.11	0.08
SMD1210-030	0.47	0.45	0.40	0.35	0.33	0.28	0.24	0.21	0.18
SMD1210-035-30	0.47	0.45	0.40	0.35	0.33	0.28	0.24	0.21	0.18
SMD1210-035	0.47	0.45	0.40	0.35	0.33	0.28	0.24	0.21	0.18
SMD1210-050	0.76	0.67	0.58	0.50	0.43	0.40	0.36	0.32	0.28
SMD1210-050-30	0.76	0.67	0.58	0.50	0.43	0.40	0.36	0.32	0.28
SMD1210-075	1.00	0.97	0.86	0.75	0.64	0.59	0.54	0.48	0.40
SMD1210-075-16	1.00	0.97	0.86	0.75	0.64	0.59	0.54	0.48	0.40
SMD1210-075-24	1.00	0.97	0.86	0.75	0.64	0.59	0.54	0.48	0.40
SMD1210-100	1.60	1.42	1.26	1.10	0.94	0.86	0.80	0.70	0.58
SMD1210-110	1.60	1.42	1.26	1.10	0.94	0.86	0.80	0.70	0.58
SMD1210-110-12	1.60	1.42	1.26	1.10	0.94	0.86	0.80	0.70	0.58
SMD1210-110-16	1.60	1.42	1.26	1.10	0.94	0.86	0.80	0.70	0.58
SMD1210-150	2.30	2.02	1.76	1.50	1.24	1.11	1.00	0.85	0.65
SMD1210-175	2.45	2.22	2.01	1.75	1.45	1.26	1.10	0.98	0.80
SMD1210-200	2.60	2.44	2.35	2.00	1.78	1.67	1.50	1.45	1.10

DIMENSIONS

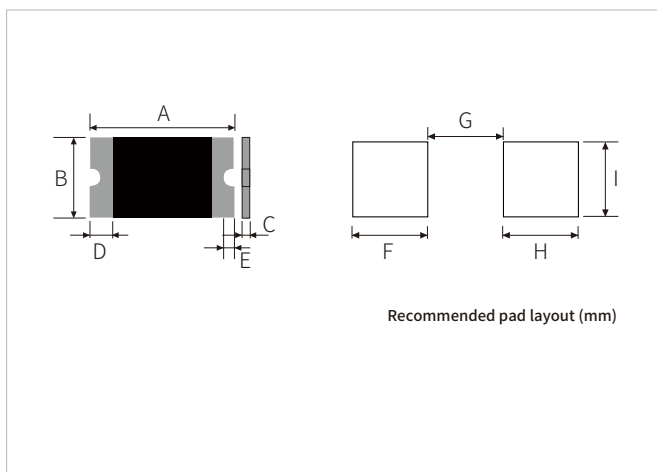
Part Number	A		B		C		D	E
	Min	Max	Min	Max	Min	Max	Min	Min
SMD1210-005	3.00	3.43	2.35	2.80	0.60	1.25	0.15	0.10
SMD1210-010	3.00	3.43	2.35	2.80	0.60	1.25	0.15	0.10
SMD1210-020	3.00	3.43	2.35	2.80	0.50	1.00	0.15	0.10
SMD1210-030	3.00	3.43	2.35	2.80	0.35	0.85	0.25	0.10
SMD1210-035-30	3.00	3.43	2.35	2.80	0.35	0.90	0.15	0.10
SMD1210-035	3.00	3.43	2.35	2.80	0.35	1.00	0.15	0.10
SMD1210-050	3.00	3.43	2.35	2.80	0.35	0.90	0.15	0.10
SMD1210-050-30	3.00	3.43	2.35	2.80	0.60	1.20	0.25	0.10
SMD1210-075	3.00	3.43	2.35	2.80	0.35	0.85	0.15	0.10
SMD1210-075-16	3.00	3.43	2.35	2.80	0.60	1.30	0.25	0.10
SMD1210-075-24	3.00	3.43	2.35	2.80	0.50	1.10	0.15	0.10
SMD1210-100	3.00	3.43	2.35	2.80	0.40	1.10	0.25	0.10
SMD1210-110	3.00	3.43	2.35	2.80	0.40	1.00	0.15	0.10
SMD1210-110-12	3.00	3.43	2.35	2.80	0.50	1.10	0.15	0.10
SMD1210-110-16	3.00	3.43	2.35	2.80	0.50	1.10	0.15	0.10
SMD1210-150	3.00	3.43	2.35	2.80	0.60	1.40	0.15	0.10
SMD1210-175	3.00	3.43	2.35	2.80	0.60	1.50	0.15	0.10
SMD1210-200	3.00	3.43	2.35	2.80	0.60	1.50	0.15	0.10

SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

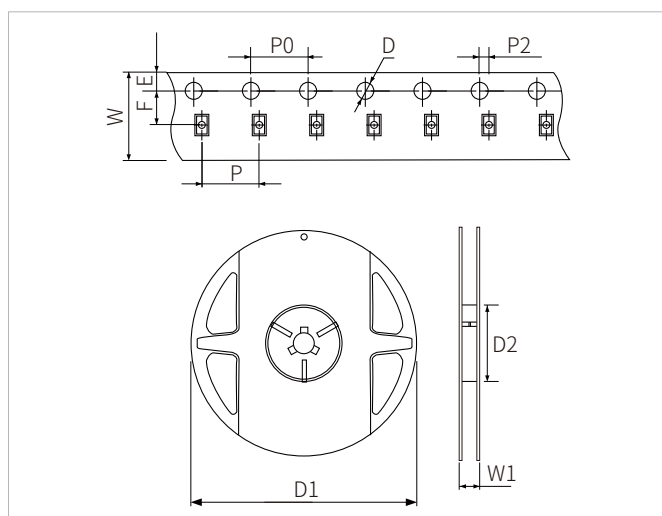


PACKAGE MECHANICAL DATA



Ref.	Dimensions
	Millimeters
A	See Dimensions Table
B	
C	
D	
E	
F	1.0
G	2.0
H	1.0
I	2.5

TAPING AND REEL SPECIFICATIONS



Symbol	Dimensions	
	Millimeters	Inches
W	8.0 ± 0.3	0.315 ± 0.012
P	4.0 ± 0.1	0.157 ± 0.004
P0	4.0 ± 0.1	0.157 ± 0.004
P2	2.0 ± 0.05	0.079 ± 0.002
F	3.50 ± 0.05	0.138 ± 0.002
E	1.75 ± 0.1	0.069 ± 0.004
D	1.55 ± 0.05	0.061 ± 0.002
D1(max)	178	7.007
D2(min)	59	2.323
W1	12 ± 1	0.472 ± 0.04

ORDERING INFORMATION

Part Number	QTY/Reel	Reel Size
SMD1210-005-SMD1210-200	4000PCS	7"
SMD1210-175,SMD1210-200	3000PCS	7"

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