➢ Features

- Size 0.12*0.10 inch /3.2*2.5 mm
- RoHS compliant, lead-free and halogen-free
- Fast response to fault current
- Low resistance
- Low profile
- Compatible with high temperature solders

➢ Applications

- Computer, Mobile phones, Multimedia
- Automotive, Industrial controls, Telephony and broadband
- Game machines, Portable electronics, Battery

➢ Electrical Characteristics（25℃）

Part Number	I_{hold}	I_{trip}	V_{max}	I_{max}	$P_{d\ typ}$	Time to trip		R_{min}	R_{1max}
	(A)	(A)	(V_{dc})	(A)	(W)	(A)	(Sec)	(Ω)	(Ω)
BSMD1210L-150	1.50	3.0	6.0	50	1.2	8.0	0.5	0.005	0.050
BSMD1210L-175	1.75	3.5	6.0	50	1.2	8.0	1.0	0.005	0.045
BSMD1210L-190	1.90	3.8	6.0	50	1.2	8.0	3.0	0.005	0.042
BSMD1210L-200	2.00	4.0	6.0	50	1.2	8.0	3.0	0.004	0.040
BSMD1210L-210	2.10	4.2	6.0	50	1.2	8.0	5.0	0.004	0.035
BSMD1210L-230	2.30	4.6	6.0	50	1.2	8.0	5.0	0.004	0.032
BSMD1210L-250	2.50	5.0	6.0	50	1.2	8.0	5.0	0.003	0.030
BSMD1210L-260	2.60	5.2	6.0	50	1.2	12.0	5.0	0.003	0.028
BSMD1210L-300	3.00	6.0	6.0	50	1.2	12.0	5.0	0.003	0.026
BSMD1210L-350	3.50	7.0	6.0	50	1.2	12.0	5.0	0.002	0.024
BSMD1210L-380	3.80	7.6	6.0	50	1.5	12.0	5.0	0.002	0.020
BSMD1210L-400	4.00	8.0	6.0	50	1.5	16.0	5.0	0.001	0.018
BSMD1210L-450	4.50	9.0	6.0	50	1.5	16.0	5.0	0.001	0.014
BSMD1210L-500	5.00	10.0	6.0	50	1.5	16.0	5.0	0.001	0.012
BSMD1210L-550	5.50	11.0	6.0	50	1.5	20.0	5.0	0.0008	0.010
BSMD1210L-600	6.00	12.0	6.0	50	1.5	20.0	5.0	0.0008	0.009
BSMD1210L-650	6.50	13.0	6.0	50	1.5	20.0	5.0	0.0005	0.008
BSMD1210L-700	7.00	14.0	6.0	50	1.6	20.0	5.0	0.0005	0.008
BSMD1210L-750	7.50	15.0	6.0	50	1.6	20.0	5.0	0.0005	0.007
BSMD1210L-800	8.00	16.0	6.0	50	1.6	20.0	5.0	0.0004	0.007

I_{hold} = Hold current: maximum current device will pass without tripping in 25℃ still air.
I_{trip} = Trip current: minimum current at which the device will trip in 25℃ 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}).
$P_{d\ typ.}$ = Typical power dissipated from device when in the tripped state at 25℃ still air.
R_{min} = Minimum resistance of device in initial (un-soldered) state.
R_{1max} = Maximum resistance of device at 25℃ measured one hour after tripping or reflow soldering of 260℃ for 20 sec.

Caution: Operation beyond the specified ratings may result in damage and possible arcing and flame.

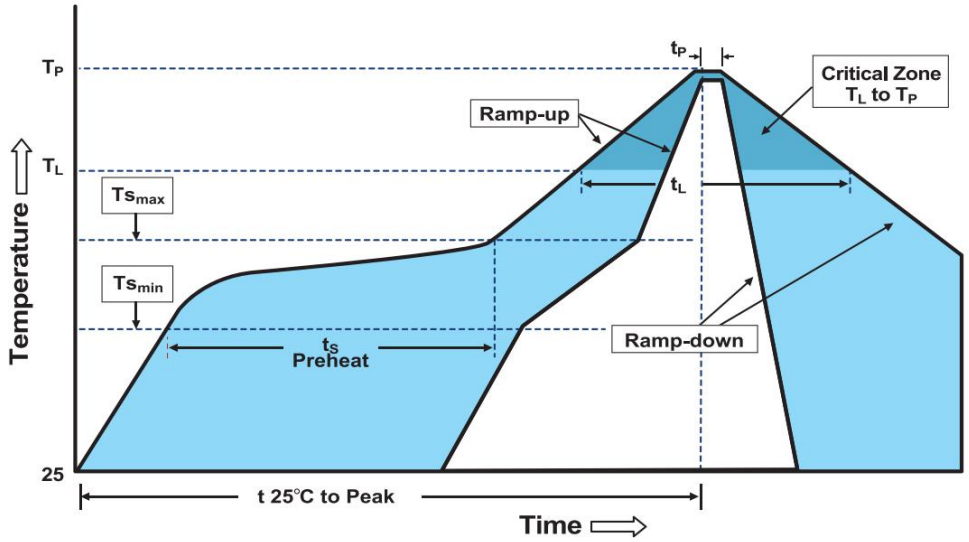
➢ WARNING

- Users shall independently assess the suitability of these devices for each of their applications.
- Operation of these devices beyond the stated maximum ratings could result in damage to the devices and lead to electrical arcing and/or fire.
- These devices are intended to protect against the effects of temporary over-current or over-temperature conditions and are not intended to perform as protective devices where such conditions are expected to be repetitive or prolonged in duration.
- Exposure to silicon-based oils, solvents, electrolytes, acids, and similar materials can adversely affect the prolonged of these PPTC devices.
- These devices undergo thermal expansion under fault conditions, and thus shall be provided with adequate space and be protected against mechanical stresses.
- Circuits with inductance may generate a voltage (L di/dt) above the rated voltage of the PPTC device.

➢ Thermal Derating Chart

Part Number	Ambient operating temperature hold current(I_{hold})							
	-40℃	-20℃	0℃	25℃	40℃	50℃	60℃	70℃
BSMD1210L-150	2.3	2.0	1.7	1.5	1.3	1.2	1.1	0.9
BSMD1210L-175	2.6	2.3	2.0	1.75	1.5	1.3	1.2	1.1
BSMD1210L-190	2.9	2.5	2.2	1.9	1.6	1.5	1.3	1.2
BSMD1210L-200	3.0	2.7	2.3	2.0	1.7	1.5	1.4	1.2
BSMD1210L-210	3.2	2.8	2.4	2.1	1.8	1.6	1.5	1.3
BSMD1210L-230	3.5	3.1	2.7	2.3	2.0	1.8	1.6	1.4
BSMD1210L-250	3.8	3.3	2.9	2.5	2.2	1.9	1.8	1.5
BSMD1210L-260	3.9	3.5	3.0	2.6	2.2	2.0	1.9	1.6
BSMD1210L-300	4.5	4.0	3.5	3.0	2.6	2.3	2.1	1.8
BSMD1210L-350	5.3	4.7	4.1	3.5	3.0	2.7	2.5	2.1
BSMD1210L-380	5.7	5.1	4.4	3.8	3.3	2.9	2.7	2.3
BSMD1210L-400	6.0	5.3	4.6	4.0	3.4	3.1	2.8	2.4
BSMD1210L-450	6.8	6.0	5.2	4.5	3.9	3.5	3.2	2.7
BSMD1210L-500	7.5	6.7	5.8	5.0	4.3	3.9	3.5	3.1
BSMD1210L-550	8.3	7.3	6.4	5.5	4.7	4.2	3.9	3.4
BSMD1210L-600	9.0	8.0	7.0	6.0	5.2	4.6	4.2	3.7
BSMD1210L-650	9.8	8.6	7.5	6.5	5.6	5.0	4.6	4.0
BSMD1210L-700	11.3	9.8	8.3	7.0	6.4	5.3	4.9	4.5
BSMD1210L-750	12.0	10.4	8.8	7.5	7.2	5.6	5.2	4.8
BSMD1210L-800	12.8	11.1	9.4	8.0	7.5	6.0	5.5	5.1

➢ Soldering Parameters



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate(Ts_{max} to T_p)	3℃/second max
Preheat **-Temperature Min(Ts_{min})** **-Temperature Max(Ts_{max})** **-Time(Ts_{min} to Ts_{max})**	 150℃ 200℃ 60~180 seconds
Time maintained above: **-Temperature(T_L)** **-Time(t_L)**	 217℃ 60~150 seconds
Peak Temperature(T_p)	260℃
Ramp-Down Rate	6℃/second max
Time 25℃ to Peak Temperature	8 minutes max
Storage Condition	0℃~30℃,30%-60%RH

- Recommended reflow methods: IR, vapor phase oven, hot air oven, N_2 environment for lead-free.
- Recommended maximum paste thickness is 0.25mm.
- Devices can be cleaned using standard industry methods and solvents.

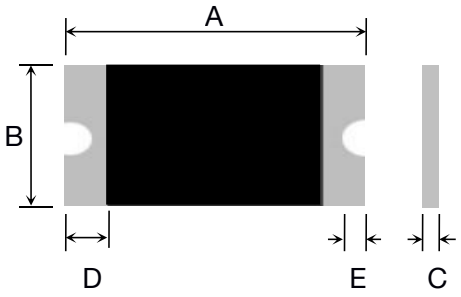
Note 1: All temperature refer to topside of the package, measured on the package body surface.

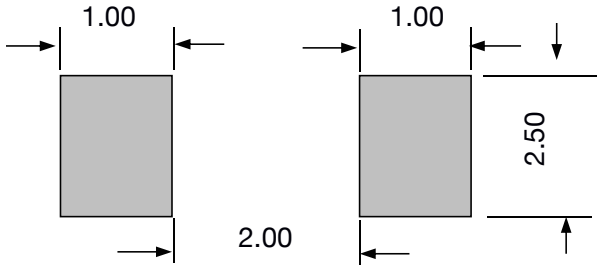
Note 2: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

➢ Environmental Specifications

Test	Conditions	Resistance change
Passive aging	+85°C, 1000 hrs.	±5% typical
Humidity aging	+85°C, 85% R.H. , 168 hours	±5% typical
Thermal shock	+85°C to -40°C, 20 times	±33% typical
Resistance to solvent	MIL-STD-202,Method 215	No change
Vibration	MIL-STD-202,Method 201	No change
Ambient operating conditions : - 40 °C to +85 °C		
Maximum surface temperature of the device in the tripped state is 125 °C		

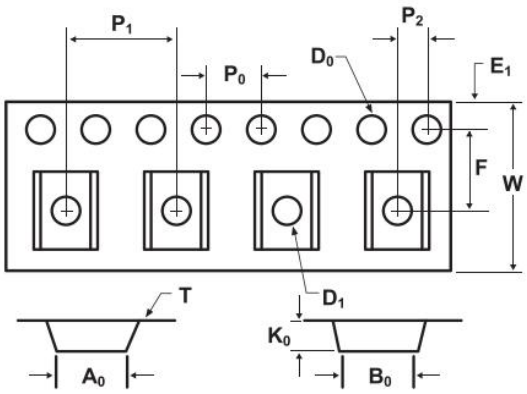
➢ Physical Dimensions & Recommended Pad Layout (mm)





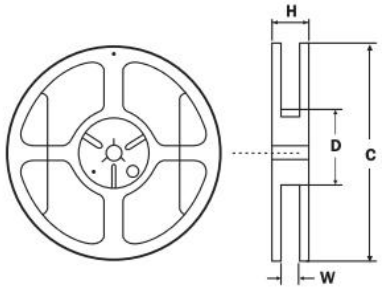
Part Number	Quantity	A		B		C		D	E
		Min	Max	Min	Max	Min	Max	Min	Min
BSMD1210L-150	4000	--	3.50	--	2.85	--	0.8	0.25	0.10
BSMD1210L-175	4000	--	3.50	--	2.85	--	0.8	0.25	0.10
BSMD1210L-190	4000	--	3.50	--	2.85	--	0.8	0.25	0.10
BSMD1210L-200	4000	--	3.50	--	2.85	--	0.8	0.25	0.10
BSMD1210L-210	4000	--	3.50	--	2.85	--	0.8	0.25	0.10
BSMD1210L-230	4000	--	3.50	--	2.85	--	0.8	0.25	0.10
BSMD1210L-250	4000	--	3.50	--	2.85	--	0.8	0.25	0.10
BSMD1210L-260	4000	--	3.50	--	2.85	--	0.8	0.25	0.10
BSMD1210L-300	4000	--	3.50	--	2.85	--	0.8	0.25	0.10
BSMD1210L-350	4000	--	3.50	--	2.85	--	1.0	0.25	0.10
BSMD1210L-380	4000	--	3.50	--	2.85	--	1.0	0.25	0.10
BSMD1210L-400	4000	--	3.50	--	2.85	--	1.0	0.25	0.10
BSMD1210L-450	4000	--	3.50	--	2.85	--	1.0	0.25	0.10
BSMD1210L-500	4000	--	3.50	--	2.85	--	1.0	0.25	0.10
BSMD1210L-550	4000	--	3.50	--	2.85	--	1.0	0.25	0.10
BSMD1210L-600	4000	--	3.50	--	2.85	--	1.1	0.25	0.10
BSMD1210L-650	3000	--	3.50	--	2.85	--	1.2	0.25	0.10
BSMD1210L-700	3000	--	3.50	--	2.85	--	1.2	0.25	0.10
BSMD1210L-750	3000	--	3.50	--	2.85	--	1.2	0.25	0.10
BSMD1210L-800	3000	--	3.50	--	2.85	--	1.2	0.25	0.10

➢ Tape And Reel Specifications (mm)



Governing Specifications	BSMD1210L-150~ BSMD1210L-380	BSMD1210L-400~ BSMD1210L-600	BSMD1210L-650~ BSMD1210L-1200
W	8.0 ± 0.3	8.0 ± 0.3	8.0 ± 0.3
F	3.5 ± 0.05	3.5 ± 0.05	3.5 ± 0.05
E1	1.75 ± 0.1	1.75 ± 0.1	1.75 ± 0.1
D0	1.55 ± 0.05	1.55 ± 0.05	1.55 ± 0.05
D1	1.0 ± 0.1	1.0 ± 0.1	1.0 ± 0.1
P0	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1
P1	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1
P2	2.0 ± 0.05	2.0 ± 0.05	2.0 ± 0.05
A0	2.9 ± 0.1	2.9 ± 0.1	2.9 ± 0.1
B0	3.65 ± 0.1	3.65 ± 0.1	3.65 ± 0.1
T	0.2 ± 0.1	0.2 ± 0.1	0.2 ± 0.1
K0	0.74 ± 0.1	1.04 ± 0.1	1.35 ± 0.1
Leader $_{min}$	390	390	390
Trailer $_{min}$	160	160	160

Reel Dimensions	
C	φ178 ± 1.0
D	φ60.2 ± 0.5
H	11.0 ± 0.5
W	9.0 ± 1.5



➢ Contact information

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