➢ Features

- Size 0.06*0.03 inch /1.5*0.8 mm
- RoHS compliant, lead-free and halogen-free
- Fast response to fault current
- Super 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°C）

Part Number	I_{hold}	I_{trip}	V_{max}	I_{max}	$P_{d\ typ}$	Time to trip		R_{min}	$R1_{max}$
	(A)	(A)	(V_{dc})	(A)	(W)	(A)	(Sec)	(Ω)	(Ω)
BSMD0603L-050	0.50	1.00	6.0	50	1.0	5.00	0.5	0.020	0.150
BSMD0603L-100	1.00	2.00	6.0	50	1.0	8.00	0.5	0.009	0.080
BSMD0603L-110	1.10	2.20	6.0	50	1.0	8.00	0.5	0.008	0.075
BSMD0603L-150	1.50	3.00	6.0	50	1.0	8.00	0.5	0.005	0.055
BSMD0603L-200	2.00	4.00	6.0	50	1.0	8.00	5.0	0.004	0.045
BSMD0603L-250	2.50	5.00	6.0	50	1.0	8.00	5.0	0.003	0.035
BSMD0603L-300	3.00	6.00	6.0	50	1.2	12.0	5.0	0.002	0.030

➢ Vocabulary

I_{hold} = Hold current: maximum current device will pass without tripping in 25°C still air.

I_{trip} = Trip current: minimum current at which the device will trip in 25°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}).

$P_{d\ typ.}$ = Typical power dissipated from device when in the tripped state at 25°C still air.

R_{min} = Minimum resistance of device in initial (un-soldered) state.

R_{1max} = Maximum resistance of device at 25°C measured one hour after tripping or reflow soldering of 260°C for 20 sec.

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

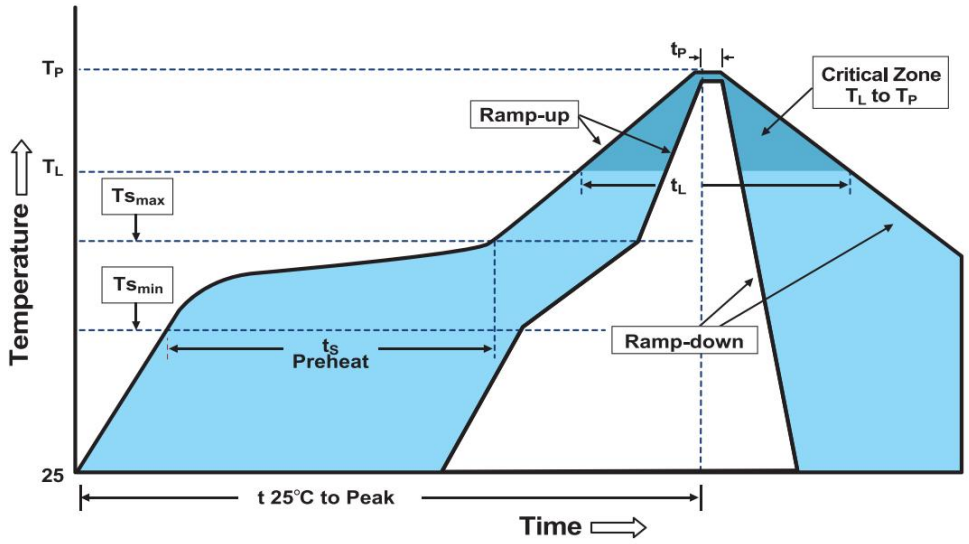
➢ Warning

- 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°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
BSMD0603L-050	1.0	0.8	0.6	0.5	0.45	0.4	0.3	0.2	0.15
BSMD0603L-100	1.7	1.4	1.2	1.0	0.9	0.8	0.7	0.6	0.5
BSMD0603L-110	1.8	1.5	1.3	1.1	0.95	0.85	0.75	0.65	0.55
BSMD0603L-150	2.3	2.0	1.7	1.5	1.4	1.1	1.0	0.9	0.7
BSMD0603L-200	3.0	2.6	2.2	2.0	1.8	1.4	1.3	1.2	1.0
BSMD0603L-250	3.9	3.4	2.9	2.6	2.3	1.8	1.7	1.6	1.4
BSMD0603L-300	4.5	3.9	3.3	3.0	2.7	2.1	2.0	1.8	1.6

➢ Soldering Parameters



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

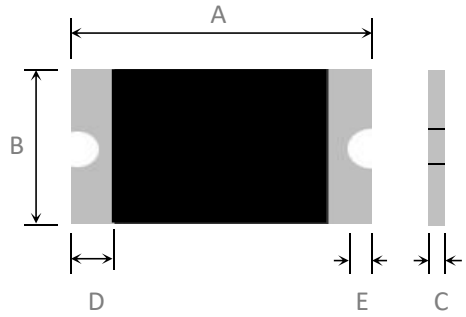
Note 1: All temperature refer to topside of the package, measured on the package body surface.

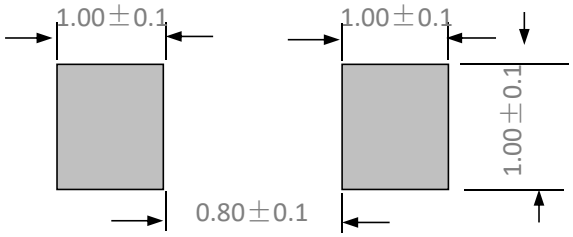
Note 2: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

➢ Environmental Specifications

Test	Conditions	Resistance change
Passive aging	+85°C, 1000 hours	±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		

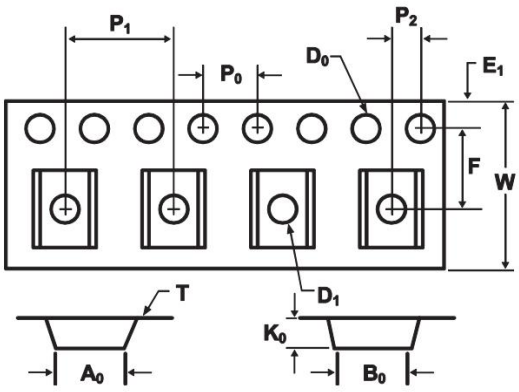
➢ Physical Dimensions & Recommended Pad Layout (mm)





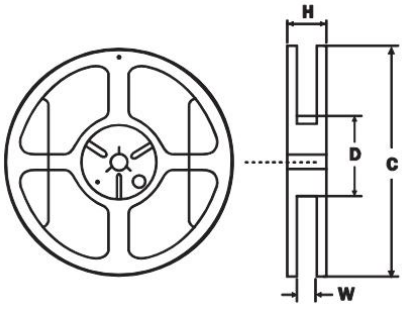
Part Number	Marking	Quantity	A		B		C		D	E
			Min	Max	Min	Max	Min	Max	Min	Min
BSMD0603L-050		4000	--	1.90	--	1.00	--	0.8	0.20	0.10
BSMD0603L-100		4000	--	1.90	--	1.00	--	0.8	0.20	0.10
BSMD0603L-110		4000	--	1.90	--	1.00	--	0.8	0.20	0.10
BSMD0603L-150		4000	--	1.90	--	1.00	--	0.8	0.20	0.10
BSMD0603L-200		4000	--	1.90	--	1.00	--	1.0	0.20	0.10
BSMD0603L-250		4000	--	1.90	--	1.00	--	1.0	0.20	0.10
BSMD0603L-300		4000	--	1.90	--	1.00	--	1.2	0.20	0.10

➢ Tape And Reel Specifications (mm)



Governing Specifications	BSMD0603L-050~ BSMD0603L-150	BSMD0603L-200~ BSMD0603L-300
W	8.0 ± 0.3	8.0 ± 0.3
F	3.5 ± 0.05	3.5 ± 0.05
E_1	1.75 ± 0.1	1.75 ± 0.1
D_0	1.55 ± 0.05	1.55 ± 0.05
D_1	1.0 ± 0.1	1.0 ± 0.1
P_0	4.0 ± 0.1	4.0 ± 0.1
P_1	4.0 ± 0.1	4.0 ± 0.1
P_2	2.0 ± 0.05	2.0 ± 0.05
A_0	1.10 ± 0.1	1.10 ± 0.1
B_0	1.95 ± 0.1	1.95 ± 0.1
T	0.2 ± 0.1	0.2 ± 0.1
K_0	0.74 ± 0.1	1.04 ± 0.1
$Leader_{min}$	390	390
$Trailer_{min}$	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

SHENZHEN BHFUSE INDUSTRIAL CO., LTD
TEL: 0755-85259917
E-MAIL: sales@bhfuse.com