

**➤ Features**

- Size 0.06\*0.03 inch /1.5\*0.8 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°C)**

Part Number	$I_{hold}$	$I_{trip}$	$V_{max}$	$I_{max}$	$P_d$	Time to trip		$R_{min}$	$R_{1max}$
	(A)	(A)	(V)	(A)	(W)	(A)	(Sec)	( $\Omega$ )	( $\Omega$ )
BSMD0603L-050	0.50	1.0	6.0	50	1.0	5.0	0.5	0.020	0.150
BSMD0603L-100	1.00	2.0	6.0	50	1.0	8.0	0.5	0.009	0.080
BSMD0603L-110	1.10	2.2	6.0	50	1.0	8.0	0.5	0.008	0.075
BSMD0603L-150	1.50	3.0	6.0	50	1.0	8.0	0.5	0.005	0.055
BSMD0603L-200	2.00	4.0	6.0	50	1.0	8.0	5.0	0.004	0.045
BSMD0603L-250	2.50	5.0	6.0	50	1.0	8.0	5.0	0.003	0.035
BSMD0603L-300	3.00	6.0	6.0	50	1.2	12.0	5.0	0.002	0.030

$I_{hold}$  = 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.

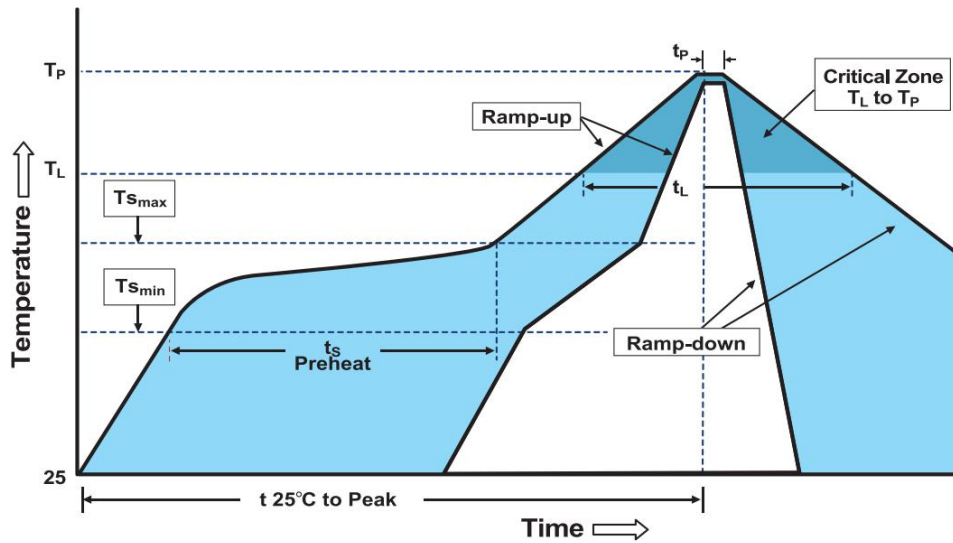
**➤ WARNING**

- 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 performance 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
BSMD0603L-050	1.0	0.8	0.6	0.5	0.45	0.4	0.3	0.2
BSMD0603L-100	1.6	1.3	1.1	1.0	0.8	0.7	0.6	0.5
BSMD0603L-110	1.7	1.4	1.2	1.1	0.9	0.8	0.7	0.6
BSMD0603L-150	2.3	2.0	1.7	1.5	1.4	1.1	1.0	0.9
BSMD0603L-200	3.0	2.6	2.2	2.0	1.8	1.4	1.3	1.2
BSMD0603L-250	3.9	3.4	2.9	2.6	2.3	1.8	1.7	1.6
BSMD0603L-300	4.5	3.9	3.3	3.0	2.7	2.1	2.0	1.8

➤ Soldering Parameters



<b>Profile Feature</b>	Pb-Free Assembly
<b>Average Ramp-Up Rate(Ts<sub>max</sub> to T<sub>p</sub>)</b>	3°C/second max
<b>Preheat</b>	
-Temperature Min(Ts <sub>min</sub> )	150°C
-Temperature Max(Ts <sub>max</sub> )	200°C
-Time(Ts <sub>min</sub> to Ts <sub>max</sub> )	60~180 seconds
<b>Time maintained above:</b>	
-Temperature(T <sub>L</sub> )	217°C
-Time(t <sub>L</sub> )	60~150 seconds
<b>Peak Temperature(T<sub>p</sub>)</b>	260°C
<b>Ramp-Down Rate</b>	6°C/second max
<b>Time 25°C to Peak Temperature</b>	8 minutes max
<b>Storage Condition</b>	0°C~30°C,30%-60%RH

- Recommended reflow methods: IR, vapor phase oven, hot air oven, N2 environment for lead-free.
- Recommended maximum paste thickness is 0.25mm.
- Devices can be cleaned using standard industry methods and solvents.

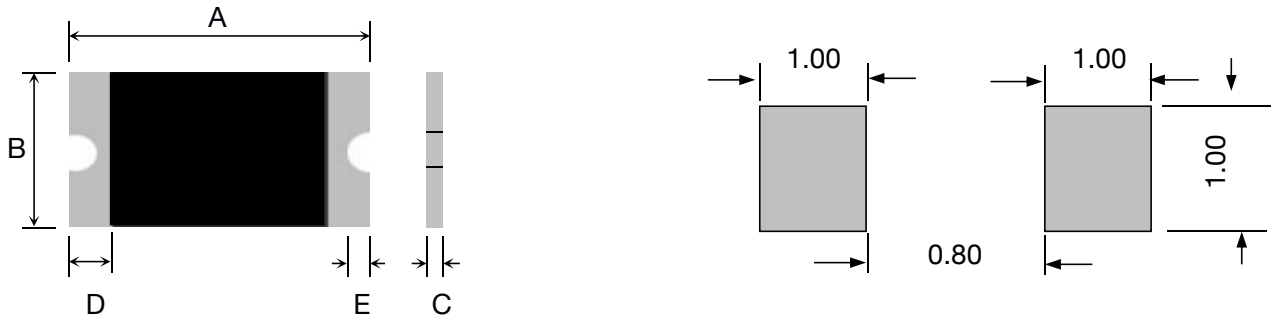
**Note 1: All temperature refer to topside of the package, measured on the package body surface.**

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

➤ Environmental Specifications

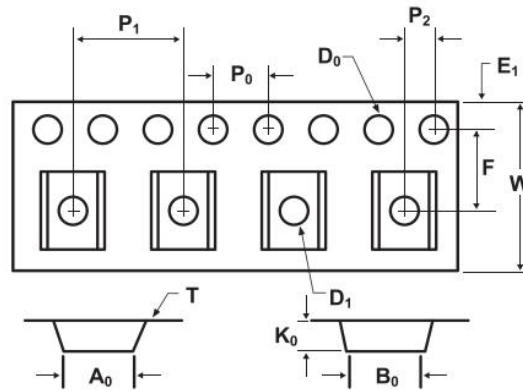
Test	Conditions	Resistance change
Passive aging	+85°C, 1000 hrs.	±5% typical
Humidity aging	+85°C, 85% R.H. , 168 hours	±5% typical
Thermal shock	+85°C to -40°C, 20 times	±33% typical
Resistance to solvent	MIL-STD-202,Method 215	No change
Vibration	MIL-STD-202,Method 201	No change
<b>Ambient operating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

➤ Physical Dimensions & Recommended Pad Layout (mm)



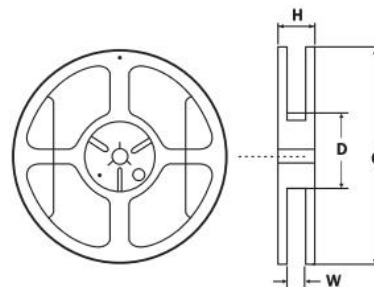
Part Number	Quantity	A		B		C		D	E
		Min	Max	Min	Max	Min	Max	Min	Min
BSMD0603L-050	4000	--	1.90	--	1.00	--	0.8	0.20	0.10
BSMD0603L-100	4000	--	1.90	--	1.00	--	0.8	0.20	0.10
BSMD0603L-110	4000	--	1.90	--	1.00	--	0.8	0.20	0.10
BSMD0603L-150	4000	--	1.90	--	1.00	--	0.8	0.20	0.10
BSMD0603L-200	4000	--	1.90	--	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	BSMD0603L-350~ BSMD0603L-600
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	1.10 ± 0.1	1.10 ± 0.1	1.10 ± 0.1
B0	1.95 ± 0.1	1.95 ± 0.1	1.95 ± 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 <sub>min</sub>	390	390	390
Trailer <sub>min</sub>	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

SHENZHEN BHFUSE INDUSTRIAL CO., LTD

TEL: 0755-85259917 FAX: 0755-28704432

E-MAIL: sales@bhfuse.com

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Resettable Fuses - PPTC category](#):*

*Click to view products by [BHFUSE manufacturer](#):*

Other Similar products are found below :

[RF0077-000](#) [RF2534-000](#) [RF3256-000](#) [RF3281-000](#) [RF3301-000](#) [RF3344-000](#) [RF3382-000](#) [SMD125-2](#) [RF2171-000](#) [RF2531-000](#) [RF2873-000](#) [RF3060-000](#) [TR600-150Q-B-0.5-0.130](#) [RXE090](#) [5E4795/04-1502](#) [TRF250-080T-B-1.0-0.125](#) [SMD100-2](#) [NIS5452MT1TXG](#) [NIS5431MT1TXG](#) [SMD250-2](#) [0ZCM0001FF2G](#) [0ZCM0003FF2G](#) [0ZCM0004FF2G](#) [BK60-017-DZ-E0.6](#) [F95456-000](#) [LVR100S](#) [RS30-090](#) [RS30-600](#) [RS30-700](#) [RS30-800](#) [RS30-900](#) [RS60RB-005](#) [RS60RB-010](#) [RS60RB-020](#) [RS60RB-025](#) [RS60RB-050](#) [RS60RB-075](#) [RS60RB-160](#) [SMD1206-300C-12V](#) [SB250-145](#) [SB250-030](#) [SB250-040](#) [SB250-200](#) [SB250-600](#) [SMD0805-005-24V](#) [SMD0805-050-16V](#) [SMD1210-005-60V](#) [SMD0805-005](#) [R60-375](#) [SMD0805K110SF6V](#)