➢ Features

- Size 0.20*0.18 inch /5.0*4.5 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

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➢ Electrical Characteristics（25°C）

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)
BSMD2018-030-60V	0.30	0.60	60	10	1.2	1.50	3.00	0.50	2.30
BSMD2018-050-60V	0.55	1.20	60	10	1.2	2.50	3.00	0.20	1.00
BSMD2018-075-60V	0.75	1.50	60	10	1.2	8.00	0.30	0.11	0.63
BSMD2018-100-15V	1.10	2.20	15	35	1.2	8.00	0.40	0.06	0.36
BSMD2018-100-33V	1.10	2.20	33	35	1.2	8.00	0.40	0.06	0.36
BSMD2018-150-15V	1.50	3.00	15	35	1.2	8.00	0.80	0.05	0.17
BSMD2018-200-10V	2.00	4.00	10	35	1.2	8.00	2.40	0.03	0.10
BSMD2018-260-24V	2.60	5.00	24	40	1.6	8.00	5.00	0.025	0.075
BSMD2018-300-16V	3.00	5.00	16	40	1.6	8.00	10.00	0.015	0.048
BSMD2018-500-6V	5.00	10.00	6	100	2.0	25.00	2.00	0.005	0.025

➢ 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.

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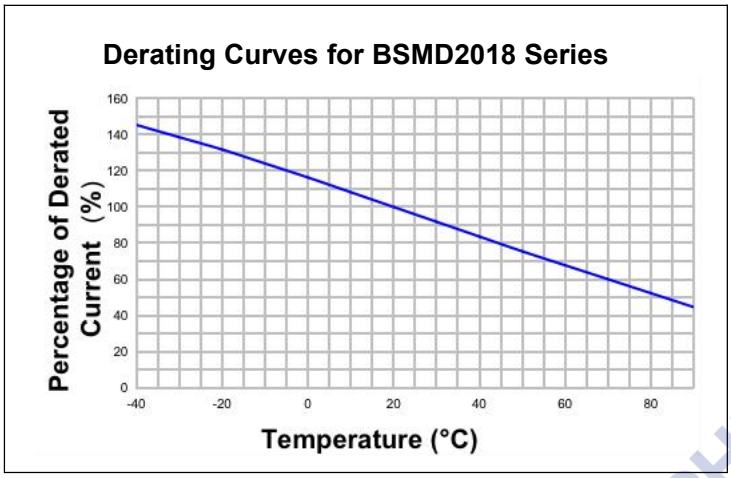
➢ Warning

- 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 Curve



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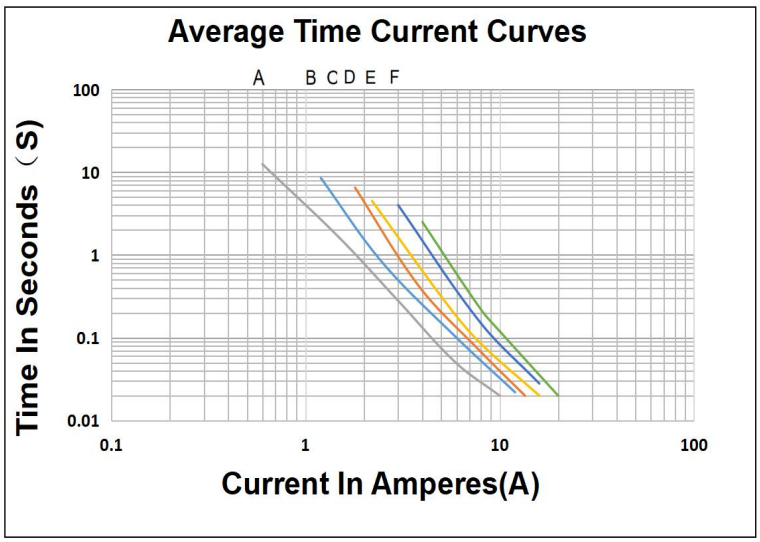
➢ Average Time-Current Curve



A=BSMD2018-030
B=BSMD2018-050
C=BSMD2018-075
D=BSMD2018-100
E=BSMD2018-150
F=BSMD2018-200

➢ 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
BSMD2018-030	0.48	0.42	0.35	0.30	0.24	0.21	0.17	0.15	0.10
BSMD2018-050	0.87	0.77	0.67	0.55	0.46	0.41	0.36	0.31	0.23
BSMD2018-075	1.19	1.05	0.91	0.75	0.61	0.54	0.47	0.41	0.32
BSMD2018-100	1.71	1.52	1.32	1.00	0.94	0.84	0.74	0.64	0.50
BSMD2018-150	2.38	2.10	1.82	1.50	1.27	1.13	0.99	0.85	0.64
BSMD2018-200	2.95	2.65	2.35	2.00	1.74	1.59	1.44	1.29	0.98
BSMD2018-260	3.82	3.46	3.06	2.60	2.24	2.03	1.82	1.60	1.26
BSMD2018-300	4.40	3.96	3.52	3.00	2.65	2.43	2.20	1.96	1.59
BSMD2018-500	7.29	6.57	5.86	5.00	4.38	4.02	3.66	3.26	2.66

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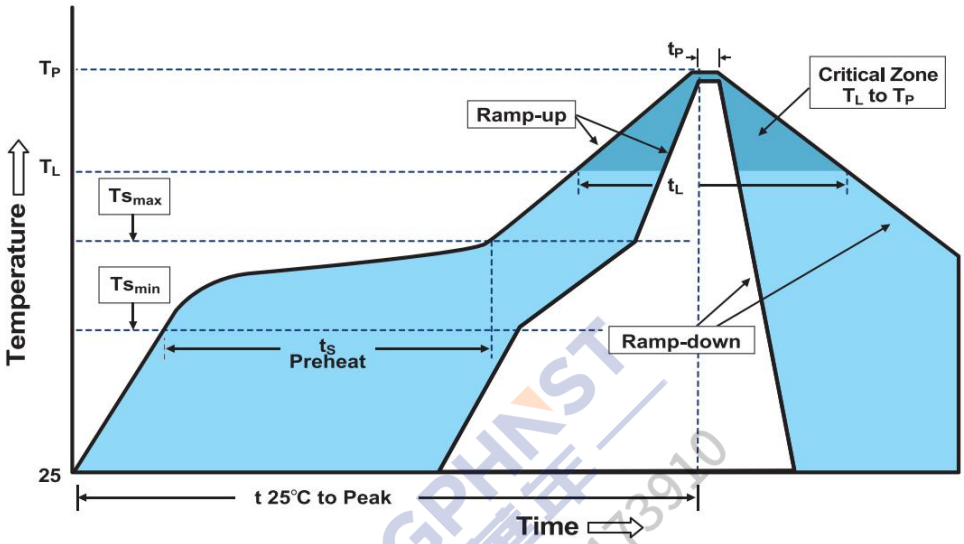
➢ Environmental Specifications

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		

➢ 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.

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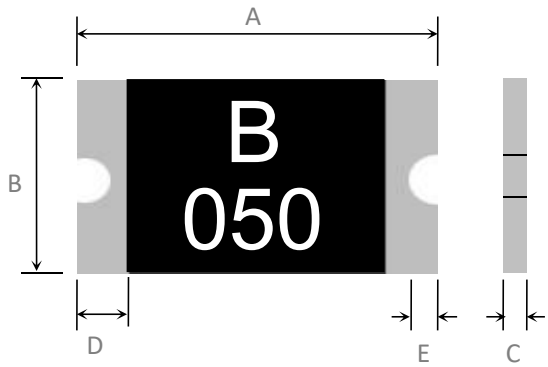
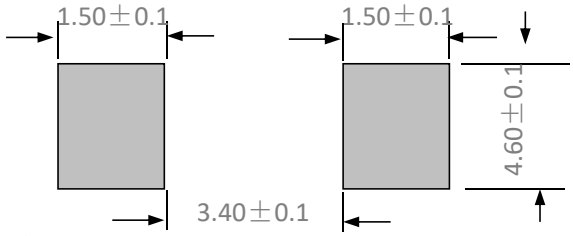
➢ Physical Dimensions & Recommended Pad Layout (mm)





Part Number	Marking	Quantity	A		B		C		D	E
			Min	Max	Min	Max	Min	Max	Min	Min
BSMD2018-030-60V	B030	1500	4.72	5.44	4.22	4.93	0.50	1.20	0.30	0.25
BSMD2018-050-60V	B050	1500	4.72	5.44	4.22	4.93	0.50	1.20	0.30	0.25
BSMD2018-075-60V	B075	1500	4.72	5.44	4.22	4.93	0.50	1.20	0.30	0.25
BSMD2018-100-15V	B100	1500	4.72	5.44	4.22	4.93	0.50	1.20	0.30	0.25
BSMD2018-100-33V	B100	1500	4.72	5.44	4.22	4.93	0.50	1.20	0.30	0.25
BSMD2018-150-15V	B150	1500	4.72	5.44	4.22	4.93	0.50	1.20	0.30	0.25
BSMD2018-200-10V	B200	1500	4.72	5.44	4.22	4.93	0.50	1.20	0.30	0.25
BSMD2018-260-24V	B260	1500	4.72	5.44	4.22	4.93	0.50	1.20	0.30	0.25
BSMD2018-300-16V	B300	1500	4.72	5.44	4.22	4.93	0.50	1.20	0.30	0.25
BSMD2018-500-6V	B500	1500	4.72	5.44	4.22	4.93	0.50	1.20	0.30	0.25

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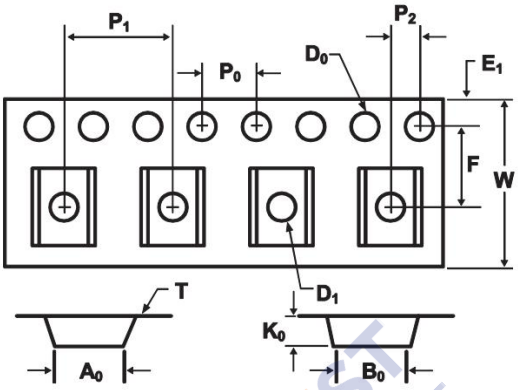
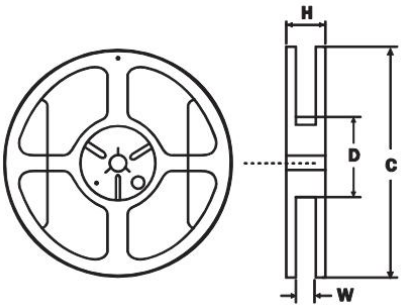
➢ Tape And Reel Specifications (mm)



Governing Specifications	BSMD2018-030~ BSMD2018-075	BSMD2018-100~ BSMD2018-150	BSMD2018-200~ BSMD2018-500
W	12.0 ± 0.3	12.0 ± 0.3	12.0 ± 0.3
F	5.5 ± 0.05	5.5 ± 0.05	5.5 ± 0.05
E_1	1.75 ± 0.1	1.75 ± 0.1	1.75 ± 0.1
D_0	1.55 ± 0.05	1.55 ± 0.05	1.55 ± 0.05
D_1	1.55_{min}	1.55_{min}	1.55_{min}
P_0	4.0 ± 0.1	4.0 ± 0.1	4.0 ± 0.1
P_1	8.0 ± 0.1	8.0 ± 0.1	8.0 ± 0.1
P_2	2.0 ± 0.05	2.0 ± 0.05	2.0 ± 0.05
A_0	3.58 ± 0.1	3.58 ± 0.1	3.58 ± 0.1
B_0	4.93 ± 0.1	4.93 ± 0.1	4.93 ± 0.1
T	0.2 ± 0.1	0.2 ± 0.1	0.2 ± 0.1
K_0	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	16.0 ± 0.5
W	13.2 ± 1.5



➢ Contact information

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