

➤ **Features**

- Size 0.34*0.25 inch
- RoHS compliant, lead-free and halogen-free
- Fast response to fault current
- Low profile
- High voltage
- 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} | R _{1max} |
|------------------|-------------------|-------------------|--------------------|------------------|--------------------|--------------|-------|------------------|-------------------|
| | (A) | (A) | (V _{dc}) | (A) | (W) | (A) | (Sec) | (Ω) | (Ω) |
| BSMD3425-200-60V | 2.00 | 4.00 | 60 | 20 | 2.5 | 8.00 | 10.0 | 0.040 | 0.200 |
| BSMD3425-260-60V | 2.60 | 5.20 | 60 | 20 | 2.5 | 8.00 | 10.0 | 0.020 | 0.120 |
| BSMD3425-300-36V | 3.00 | 6.00 | 36 | 20 | 2.5 | 8.00 | 20.0 | 0.010 | 0.060 |

➤ Vocabulary

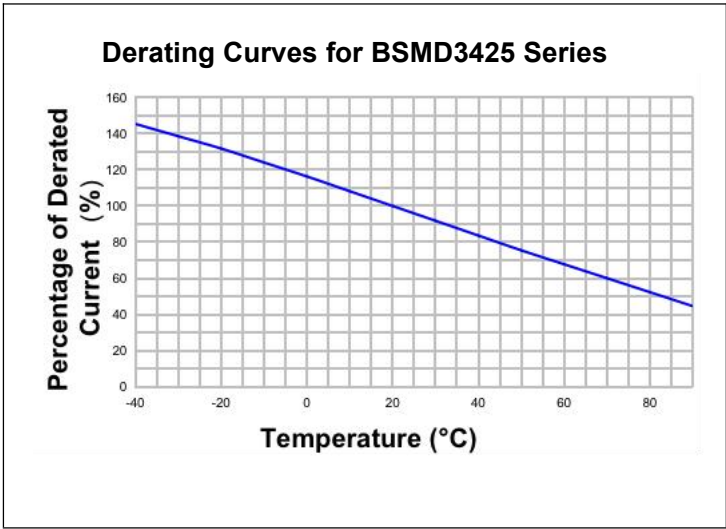
- I_{hold}** = Hold current: maximum current device will pass without tripping in 25°C still air.
- I_{trip}** = Trip current: minimum current at which the device will trip in 25°C still air.
- V_{max}** = Maximum voltage device can withstand without damage at rated current (**I_{max}**).
- I_{max}** = 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.

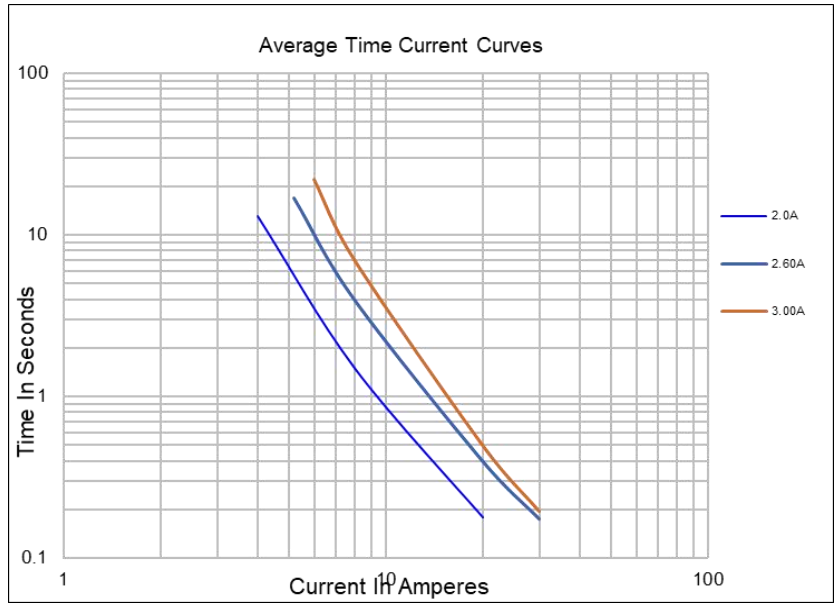
➤ Warning

- 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 Curve



➤ Average Time-Current Curve



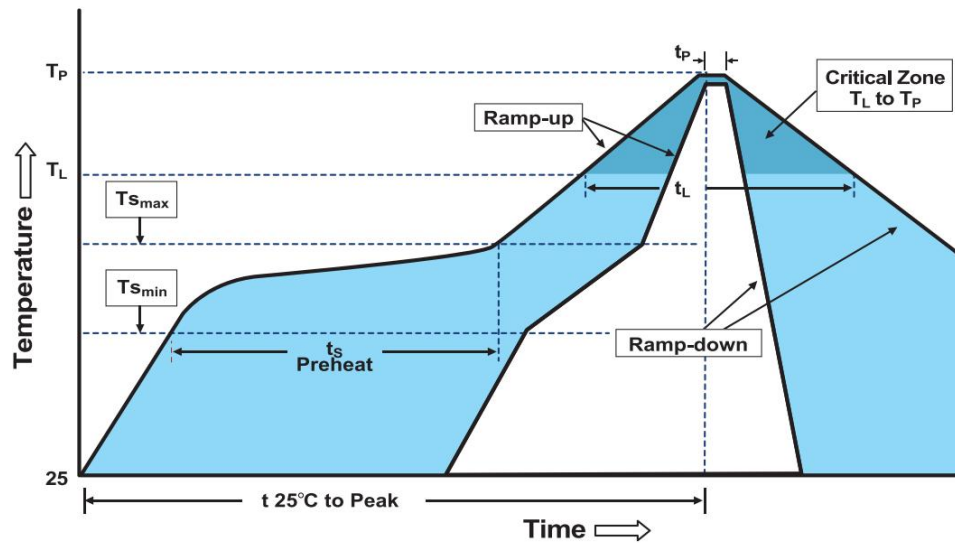
➤ Thermal Derating Chart

| 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 |
| BSMD3425-200-60V | 3.07 | 2.73 | 2.39 | 2.00 | 1.71 | 1.54 | 1.37 | 1.20 | 0.95 |
| BSMD3425-260-60V | 4.01 | 3.56 | 3.12 | 2.60 | 2.22 | 2.00 | 1.77 | 1.55 | 1.21 |
| BSMD3425-300-36V | 4.43 | 3.98 | 3.52 | 3.00 | 2.61 | 2.39 | 2.16 | 1.93 | 1.59 |

➤ 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



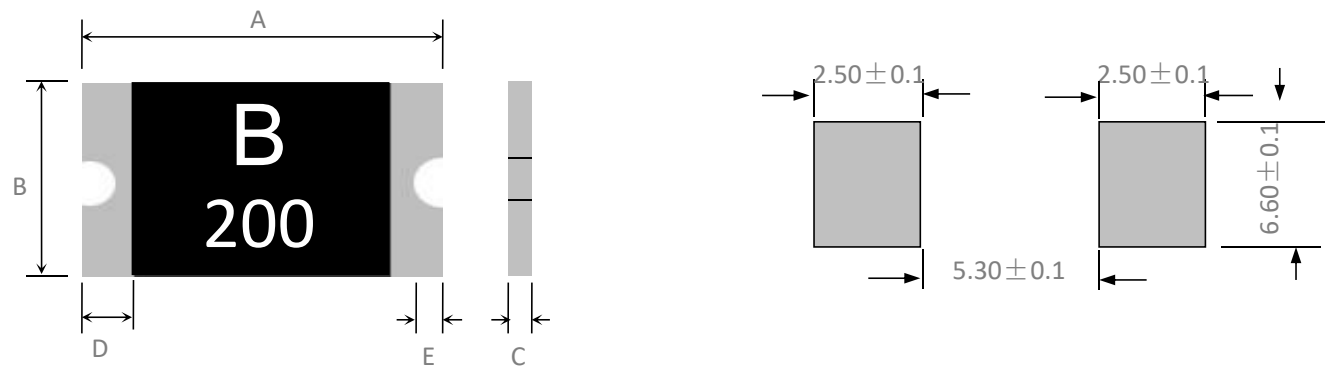
| Profile Feature | Pb-Free Assembly |
|--|----------------------------------|
| Average Ramp-Up Rate($T_{s_{max}}$ to T_p) | 3°C/second max |
| Preheat -Temperature Min($T_{s_{min}}$) -Temperature Max($T_{s_{max}}$) -Time($T_{s_{min}}$ to $T_{s_{max}}$) | 150°C 200°C 60~180 seconds |
| Time maintained 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, 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.

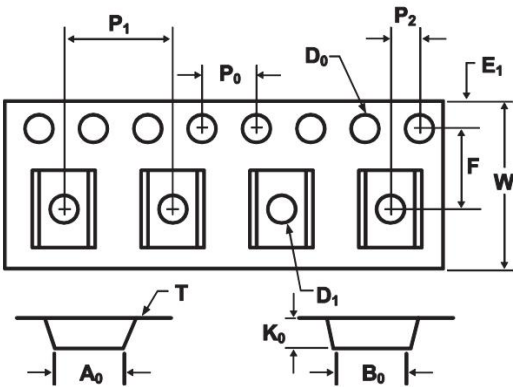
Note 2: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

➤ Physical Dimensions & Recommended Pad Layout (mm)



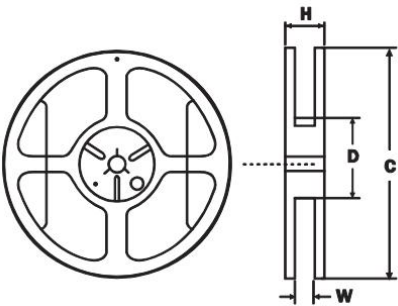
| Part Number | Marking | Quantity | A | | B | | C | | D | E |
|------------------|---------|----------|------|------|------|------|------|------|------|------|
| | | | Min | Max | Min | Max | Min | Max | Min | Min |
| BSMD3425-200-60V | B200 | 1500 | 8.30 | 9.00 | 6.00 | 6.70 | 1.00 | 2.00 | 0.30 | 0.25 |
| BSMD3425-260-60V | B260 | 1500 | 8.30 | 9.00 | 6.00 | 6.70 | 1.00 | 2.00 | 0.30 | 0.25 |
| BSMD3425-300-36V | B300 | 1500 | 8.30 | 9.00 | 6.00 | 6.70 | 1.00 | 2.00 | 0.30 | 0.25 |

➤ Tape And Reel Specifications (mm)



| Governing Specifications | BSMD3425-200-60V BSMD3425-260-60V BSMD3425-300-36V |
|--------------------------|--|
| W | 16.0 ± 0.3 |
| F | 7.5 ± 0.05 |
| E ₁ | 1.75 ± 0.1 |
| D ₀ | 1.50 ± 0.05 |
| D ₁ | 1.55 _{min} |
| P ₀ | 4.0 ± 0.1 |
| P ₁ | 8.0 ± 0.1 |
| P ₂ | 2.0 ± 0.05 |
| A ₀ | 7.0 ± 0.1 |
| B ₀ | 9.5 ± 0.1 |
| T | 0.6 |
| K ₀ | 2.2 |
| Leader _{min} | 390 |
| Trailer _{min} | 160 |

| Reel Dimensions | |
|-----------------|-------------|
| C | φ180 ± 3.0 |
| D | φ60.2 ± 0.5 |
| H | 22.4 ± 1.0 |
| W | 16.4 ± 0.2 |



➤ Contact information

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