

➤ Features

- 16Vdc max voltage
- RoHS compliant, lead-free and halogen-free
- Resettable feature
- Ideal for a broad range of general electronics using a low voltage power supply

➤ Applications

- Load protection on wide range of low voltage power supplies
- Computers, Computers peripherals
- General electronics

➤ Electrical Characteristics (25°C)

| Part Number | I_{hold} | I_{trip} | V_{max} | I_{max} | $P_{d\ typ}$ | Time to trip | | $R_{i\ min}$ | $R_{1\ max}$ |
|-------------|------------|------------|--------------------|-----------|--------------|--------------|-------|--------------|--------------|
| | (A) | (A) | (V _{dc}) | (A) | (W) | (A) | (Sec) | (Ω) | (Ω) |
| BH16-030 | 0.30 | 0.60 | 16 | 40 | 1.0 | 1.50 | 5.0 | 0.300 | 0.900 |
| BH16-050 | 0.50 | 1.00 | 16 | 40 | 1.0 | 2.50 | 5.0 | 0.200 | 0.750 |
| BH16-065 | 0.65 | 1.30 | 16 | 40 | 1.0 | 3.25 | 5.0 | 0.120 | 0.270 |
| BH16-075 | 0.75 | 1.50 | 16 | 40 | 1.0 | 3.75 | 5.0 | 0.100 | 0.255 |
| BH16-090 | 0.90 | 1.80 | 16 | 40 | 1.0 | 4.50 | 5.0 | 0.090 | 0.240 |
| BH16-100 | 1.00 | 2.00 | 16 | 40 | 1.0 | 5.00 | 5.0 | 0.070 | 0.225 |
| BH16-110 | 1.10 | 2.20 | 16 | 40 | 1.0 | 5.50 | 5.0 | 0.080 | 0.225 |
| BH16-120 | 1.20 | 2.40 | 16 | 40 | 1.0 | 6.00 | 5.0 | 0.070 | 0.225 |
| BH16-135 | 1.35 | 2.70 | 16 | 40 | 1.3 | 6.75 | 5.0 | 0.040 | 0.180 |
| BH16-160 | 1.60 | 3.20 | 16 | 40 | 1.5 | 8.00 | 10.0 | 0.030 | 0.105 |
| BH16-185 | 1.85 | 3.70 | 16 | 40 | 2.0 | 9.25 | 10.0 | 0.030 | 0.135 |
| BH16-200 | 2.00 | 4.00 | 16 | 40 | 2.0 | 10.0 | 10.0 | 0.030 | 0.075 |
| BH16-250 | 2.50 | 5.00 | 16 | 40 | 2.5 | 12.5 | 5.0 | 0.020 | 0.075 |
| BH16-300 | 3.00 | 6.00 | 16 | 100 | 2.5 | 15.0 | 2.0 | 0.038 | 0.105 |
| BH16-400 | 4.00 | 8.00 | 16 | 100 | 2.8 | 20.0 | 3.5 | 0.021 | 0.060 |
| BH16-500 | 5.00 | 10.0 | 16 | 100 | 3.0 | 25.0 | 3.6 | 0.015 | 0.038 |
| BH16-600 | 6.00 | 12.0 | 16 | 100 | 3.2 | 30.0 | 5.8 | 0.010 | 0.030 |
| BH16-700 | 7.00 | 14.0 | 16 | 100 | 3.5 | 35.0 | 8.0 | 0.008 | 0.023 |
| BH16-800 | 8.00 | 16.0 | 16 | 100 | 3.5 | 40.0 | 9.0 | 0.006 | 0.018 |
| BH16-900 | 9.00 | 18.0 | 16 | 100 | 3.8 | 45.0 | 12.0 | 0.005 | 0.017 |
| BH16-1000 | 10.0 | 20.0 | 16 | 100 | 4.0 | 50.0 | 12.5 | 0.004 | 0.014 |
| BH16-1100 | 11.0 | 22.0 | 16 | 100 | 4.0 | 55.0 | 13.5 | 0.004 | 0.012 |

| Part Number | I_{hold} | I_{trip} | V_{max} | I_{max} | $P_{d\ typ}$ | Time to trip | | $R_{i\ min}$ | $R_{1\ max}$ |
|-------------|------------|------------|--------------------|-----------|--------------|--------------|-------|--------------|--------------|
| | (A) | (A) | (V _{dc}) | (A) | (W) | (A) | (Sec) | (Ω) | (Ω) |
| BH16-1200 | 12.0 | 24.0 | 16 | 100 | 4.2 | 60.0 | 16.0 | 0.004 | 0.011 |
| BH16-1400 | 14.0 | 28.0 | 16 | 100 | 4.8 | 70.0 | 20.0 | 0.003 | 0.008 |
| BH16-1500 | 15.0 | 30.0 | 16 | 100 | 5.0 | 75.0 | 20.0 | 0.003 | 0.008 |

➤ Vocabulary

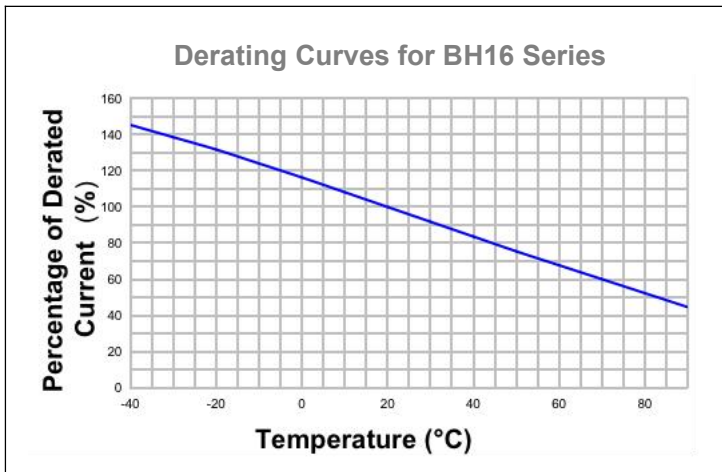
- I_{hold} = Hold current: maximum current device will pass without tripping in 25°C still air.
- I_{trip} = Trip current: minimum current at which the device will trip in 25°C still air.
- V_{max} = Maximum voltage device can withstand without damage at rated current (I_{max}).
- I_{max} = Maximum fault 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.
- $R_{1\ max}$ = 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.

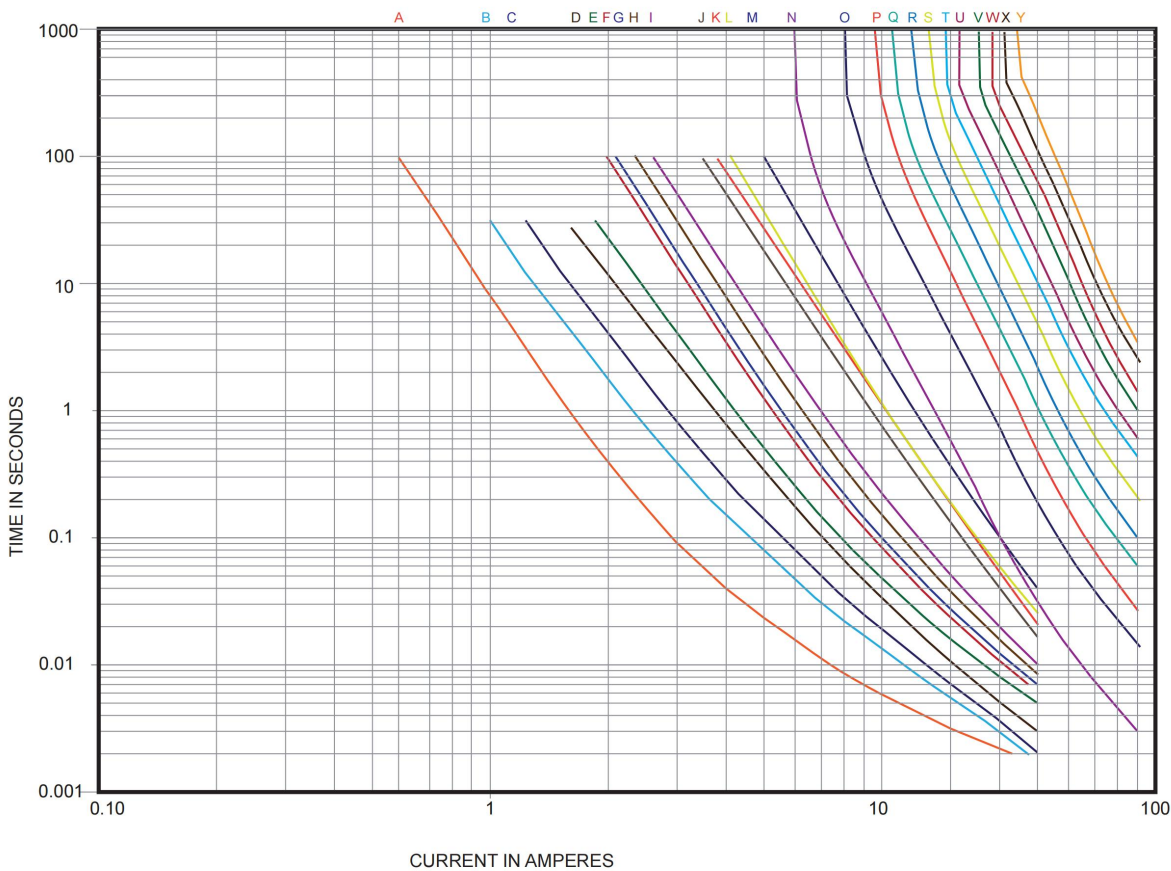
➤ Warning

- 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



- A=BH16-030
- B=BH16-050
- C=BH16-065
- D=BH16-075
- E=BH16-090
- F=BH16-100
- G=BH16-110
- H=BH16-120
- I=BH16-135
- J=BH16-160
- K=BH16-185
- L=BH16-200
- M=BH16-250
- N=BH16-300
- O=BH16-400
- P=BH16-500
- Q=BH16-600
- R=BH16-700
- S=BH16-800
- T=BH16-900
- U=BH16-1000
- V=BH16-1100
- W=BH16-1200
- X=BH16-1400
- Y=BH16-1500

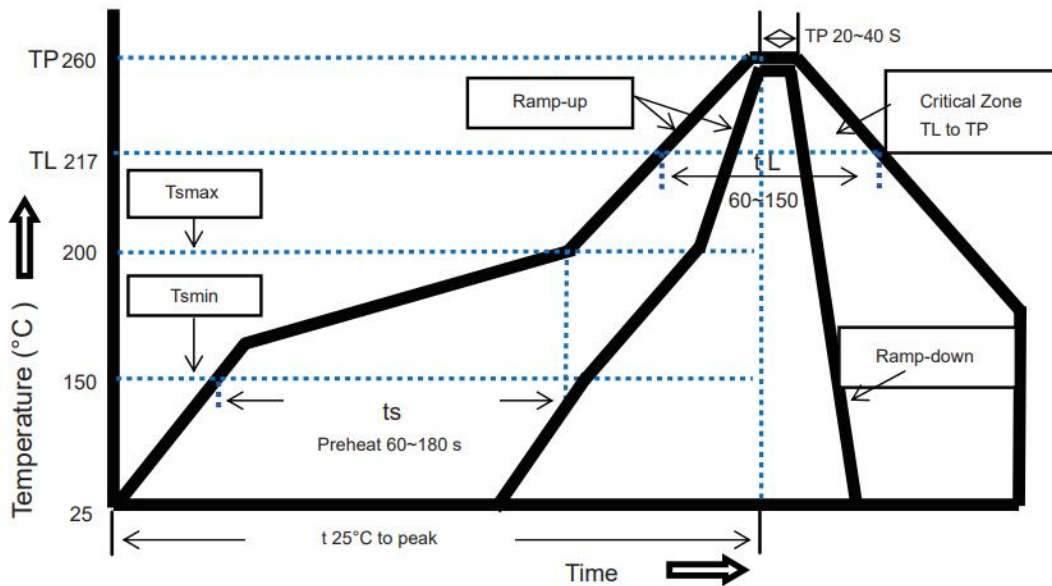
➤ Thermal Derating Chart

| 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 |
| BH16-030 | 0.444 | 0.396 | 0.348 | 0.300 | 0.252 | 0.228 | 0.207 | 0.183 | 0.144 |
| BH16-050 | 0.740 | 0.660 | 0.580 | 0.500 | 0.420 | 0.380 | 0.345 | 0.300 | 0.240 |
| BH16-065 | 0.962 | 0.858 | 0.754 | 0.650 | 0.546 | 0.494 | 0.449 | 0.390 | 0.312 |
| BH16-075 | 1.110 | 0.990 | 0.870 | 0.750 | 0.630 | 0.570 | 0.518 | 0.450 | 0.360 |
| BH16-090 | 1.332 | 1.188 | 1.044 | 0.900 | 0.756 | 0.684 | 0.621 | 0.540 | 0.432 |
| BH16-100 | 1.480 | 1.320 | 1.160 | 1.000 | 0.840 | 0.760 | 0.690 | 0.600 | 0.480 |
| BH16-110 | 1.628 | 1.452 | 1.276 | 1.100 | 0.924 | 0.836 | 0.759 | 0.660 | 0.528 |
| BH16-120 | 1.776 | 1.584 | 1.392 | 1.200 | 1.008 | 0.912 | 0.828 | 0.720 | 0.576 |
| BH16-135 | 1.998 | 1.782 | 1.566 | 1.350 | 1.134 | 1.026 | 0.932 | 0.810 | 0.648 |
| BH16-160 | 2.368 | 2.112 | 1.856 | 1.600 | 1.344 | 1.216 | 1.104 | 0.960 | 0.768 |
| BH16-185 | 2.738 | 2.442 | 2.146 | 1.850 | 1.554 | 1.406 | 1.277 | 1.110 | 0.888 |
| BH16-200 | 2.960 | 2.640 | 2.320 | 2.000 | 1.680 | 1.520 | 1.380 | 1.200 | 0.960 |
| BH16-250 | 3.700 | 3.300 | 2.900 | 2.500 | 2.100 | 1.900 | 1.725 | 1.500 | 1.200 |
| BH16-300 | 4.440 | 3.960 | 3.480 | 3.000 | 2.520 | 2.280 | 2.070 | 1.800 | 1.440 |
| BH16-400 | 5.920 | 5.280 | 4.640 | 4.000 | 3.360 | 3.040 | 2.760 | 2.400 | 1.920 |
| BH16-500 | 7.400 | 6.600 | 5.800 | 5.000 | 4.200 | 3.800 | 3.450 | 3.000 | 2.400 |
| BH16-600 | 8.880 | 7.920 | 6.960 | 6.000 | 5.040 | 4.560 | 4.140 | 3.600 | 2.880 |
| BH16-700 | 10.36 | 9.240 | 8.120 | 7.000 | 5.880 | 5.320 | 4.830 | 4.200 | 3.360 |
| BH16-800 | 11.84 | 10.56 | 9.280 | 8.000 | 6.720 | 6.080 | 5.520 | 4.800 | 3.840 |
| BH16-900 | 13.32 | 11.88 | 10.44 | 9.000 | 7.560 | 6.840 | 6.210 | 5.400 | 4.320 |
| BH16-1000 | 14.80 | 13.20 | 11.60 | 10.00 | 8.400 | 7.600 | 6.900 | 6.000 | 4.800 |
| BH16-1100 | 16.28 | 14.52 | 12.76 | 11.00 | 9.240 | 8.360 | 7.590 | 6.600 | 5.280 |
| BH16-1200 | 17.76 | 15.84 | 13.92 | 12.00 | 10.08 | 9.120 | 8.280 | 7.200 | 5.760 |
| BH16-1400 | 20.72 | 18.48 | 16.24 | 14.00 | 11.76 | 10.64 | 9.660 | 8.400 | 6.720 |
| BH16-1500 | 22.20 | 19.80 | 17.40 | 15.00 | 12.60 | 11.40 | 10.35 | 9.000 | 7.500 |

➤ 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($T_{s_{min}}$) | 150°C |
| -Temperature Max($T_{s_{max}}$) | 200°C |
| -Time($T_{s_{min}}$ to $T_{s_{max}}$) | 60~180 seconds |
| Time maintained above: | |
| -Temperature(T_L) | 217°C |
| -Time(t_L) | 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)**

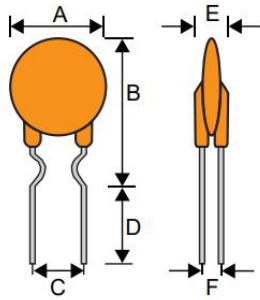


FIG 1

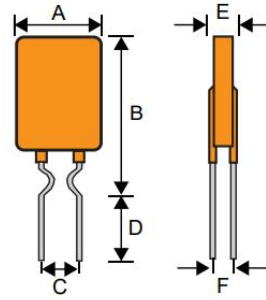


FIG 2

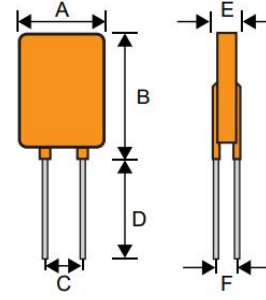


FIG 3

| Part Number | Quantity | A | B | C | D | E | F | Lead | |
|-------------|----------|------|------|----------|-----|-----|-----|------|-----|
| | | Max | Max | Typ | Min | Max | Typ | φ | FIG |
| BH16-030 | 500 | 7.4 | 13.0 | 5.1±0.5 | 7.6 | 3.0 | 0.8 | 0.5 | 1 |
| BH16-050 | 500 | 7.4 | 13.0 | 5.1±0.5 | 7.6 | 3.0 | 0.8 | 0.5 | 1 |
| BH16-065 | 500 | 7.4 | 13.0 | 5.1±0.5 | 7.6 | 3.0 | 0.8 | 0.5 | 1 |
| BH16-075 | 500 | 7.4 | 13.0 | 5.1±0.5 | 7.6 | 3.0 | 0.8 | 0.5 | 1 |
| BH16-090 | 500 | 7.4 | 14.4 | 5.1±0.5 | 7.6 | 3.0 | 0.8 | 0.5 | 2 |
| BH16-100 | 500 | 7.4 | 13.0 | 5.1±0.5 | 7.6 | 3.0 | 0.8 | 0.5 | 1 |
| BH16-110 | 500 | 7.4 | 14.4 | 5.1±0.5 | 7.6 | 3.0 | 0.8 | 0.5 | 2 |
| BH16-120 | 500 | 7.4 | 14.4 | 5.1±0.5 | 7.6 | 3.0 | 0.8 | 0.5 | 2 |
| BH16-135 | 500 | 8.9 | 15.9 | 5.1±0.5 | 7.6 | 3.0 | 0.9 | 0.6 | 2 |
| BH16-160 | 500 | 8.9 | 19.0 | 5.1±0.5 | 7.6 | 3.0 | 0.9 | 0.6 | 2 |
| BH16-185 | 500 | 10.7 | 19.0 | 5.1±0.5 | 7.6 | 3.0 | 0.9 | 0.6 | 2 |
| BH16-200 | 500 | 11.2 | 17.0 | 5.1±0.5 | 7.6 | 3.0 | 0.9 | 0.6 | 1 |
| BH16-250 | 500 | 8.9 | 19.0 | 5.1±0.5 | 7.6 | 3.0 | 0.9 | 0.6 | 2 |
| BH16-300 | 500 | 7.1 | 11.5 | 5.1±0.5 | 7.6 | 3.0 | 1.2 | 0.8 | 3 |
| BH16-400 | 500 | 8.9 | 13.5 | 5.1±0.5 | 7.6 | 3.0 | 1.2 | 0.8 | 3 |
| BH16-500 | 500 | 10.5 | 15.1 | 5.1±0.5 | 7.6 | 3.0 | 1.2 | 0.8 | 3 |
| BH16-600 | 500 | 11.0 | 17.8 | 5.1±0.5 | 7.6 | 3.0 | 1.2 | 0.8 | 3 |
| BH16-700 | 500 | 11.2 | 20.2 | 5.1±0.5 | 7.6 | 3.0 | 1.2 | 0.8 | 3 |
| BH16-800 | 500 | 14.0 | 22.5 | 5.1±0.5 | 7.6 | 3.0 | 1.2 | 0.8 | 3 |
| BH16-900 | 500 | 14.0 | 22.5 | 5.1±0.5 | 7.6 | 3.0 | 1.2 | 0.8 | 3 |
| BH16-1000 | 500 | 16.5 | 26.7 | 5.1±0.5 | 7.6 | 3.0 | 1.2 | 0.8 | 3 |
| BH16-1100 | 500 | 18.0 | 28.0 | 5.1±0.5 | 7.6 | 3.0 | 1.2 | 0.8 | 3 |
| BH16-1200 | 500 | 18.0 | 28.0 | 5.1±0.5 | 7.6 | 3.5 | 1.4 | 0.8 | 3 |
| BH16-1400 | 500 | 25.0 | 30.5 | 10.2±0.5 | 7.6 | 3.5 | 1.4 | 0.8 | 3 |
| BH16-1500 | 500 | 25.0 | 30.5 | 10.2±0.5 | 7.6 | 3.5 | 1.4 | 0.8 | 3 |

➤ **Contact information**

SHENZHEN BHFUSE INDUSTRIAL CO., LTD

TEL: 0755-85259917

E-MAIL: sales@bhfuse.com