

## ELECTRIC SPECIFICATION

### Electric Characteristics

Model	V <sub>max</sub> (V)	I <sub>max</sub> (A)	I <sub>hold</sub> @25°C (A)	I <sub>trip</sub> @25°C (A)	P <sub>d</sub> Typ. (W)	Maximum Time To Trip		Resistance		
						Current (A)	Time (Sec)	R <sub>i_min</sub> (Ω)	R <sub>i_typ</sub> (Ω)	R <sub>1_max</sub> (Ω)
BpS06A01.10-06	6.0	100	1.10	1.80	0.6	8.0	0.30	0.052	0.100	0.270

I<sub>hold</sub> = Hold Current. Maximum current device will sustain for 30min without tripping in 25°C still air.

I<sub>trip</sub> = Trip Current. Minimum current at which the device will trip in 25°C still air.

V<sub>max</sub> = Maximum voltage device can withstand without damage at rated current.

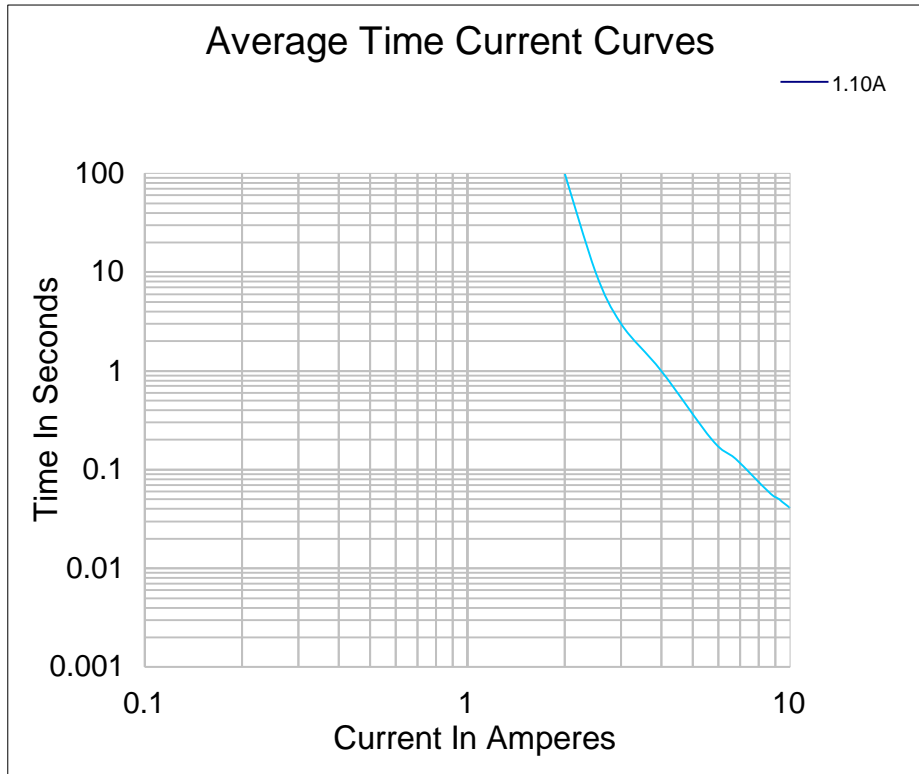
I<sub>max</sub> = Maximum fault current device can withstand without damage at rated voltage.

P<sub>d\_typ</sub> = Power dissipated from device when in the tripped state at 25°C still air.

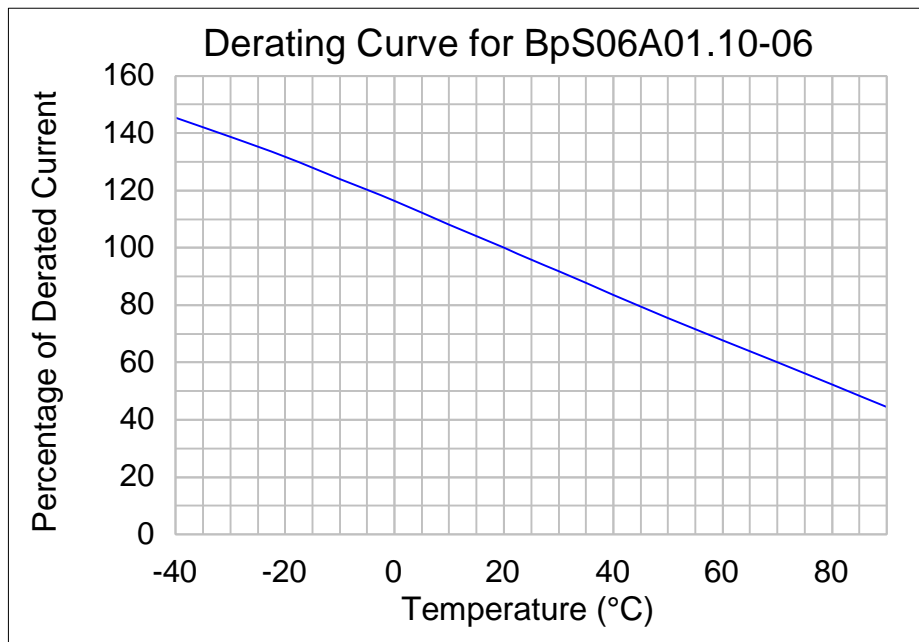
R<sub>i\_typ</sub> = Typical resistance of device in initial (un-soldered) state.

R<sub>1\_max</sub> = Maximum resistance of device at 25°C measured one hour post reflow.

2-2. Average Time Current Curve



2-3. Thermal Derating Curve

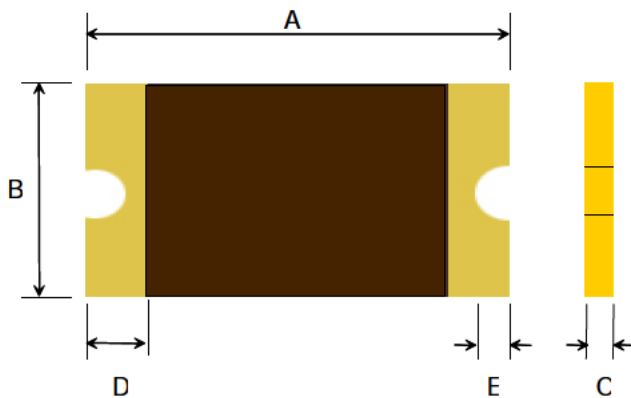


### 3. MECHANICAL SPECIFICATIONS

#### 3-1. Physical Dimensions (unit: mm)

Model	A		B		C		D	E
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.
BpS06A01.10-06	3.00	3.50	1.50	1.80	0.40	0.80	0.15	0.10

#### 3-2. Outline Drawing



#### 3-3. Plating

Lead Free versions are RoHS compliant

Terminal Pad Materials: Tin-Plated Nickel-Copper or Gold-Plated Nickel-Copper

## 4. ENVIRONMENT

### 4-1. Operating Conditions

Operating Temperature : -40°C to 85°C  
 Device Surface Temperature : 125°C maximum

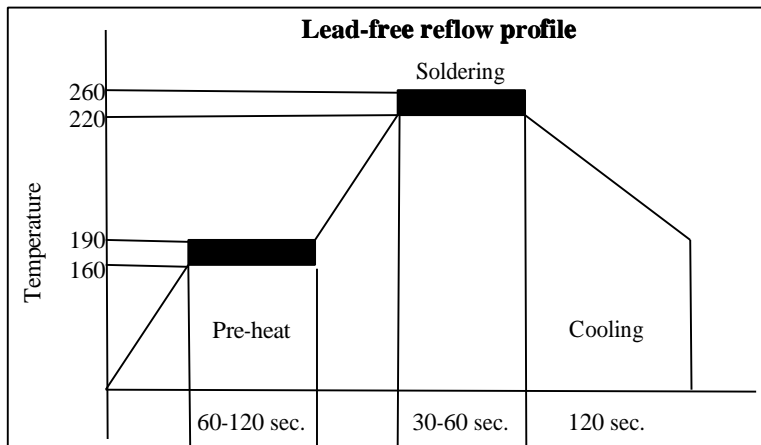
### 4-2. Environmental Specifications

The device specified follows the UL Standard for Safety for Thermistor-Type Devices, UL1434, April 3, 2000 Edition.

TEST ITEM	EVALUATION	MEASUREMENT
Resistance/Temperature (R/T) Measurement	The measured resistance at various temperatures were recorded for each "as-received" and "after conditioning" sample.	Resistance and Temperature
1000 Hour Thermal Aging	Each sample was conditioned by letting the devices remain in their "tripped" state for 1000 hour	R/T Curves before and after each test
Heat-Cold-Humidity Cycling	24 hrs at the steady-state temperature, 168 hrs at a relative humidity of 90 - 95% at 40°C. 8 hrs at 0°C.	R/T Curves before and after each test
Overload and Endurance	50 cycles at a 120% maximum current (Imax) and maximum voltage (Vmax). 6,000 cycles at a maximum voltage and current over than a 300% trip current (Itrip).	R/T Curves before and after each test
Cold Operational	1,000 cycles in the Endurance Test, except the samples were operated in a freezer at 0°C.	R/T Curves before and after each test
Thermal Runaway	0 volt to 200% of Vmax at 2-minute intervals. The 200% voltage was maintained for 2 minutes.	No burning, arcing and breakdown

\*All samples shall be mounted on PCB before testing.

### 4-3. Solder reflow conditions



Recommended reflow methods: IR, vapor phase oven, hot air oven, N<sub>2</sub> environment for lead-free.

Devices are not designed to be wave soldered to the bottom side of the board.

Recommended maximum paste thickness is 0.25mm (0.010inch).

Devices can be cleaned using standard industry methods and solvents.

Soldering temperature profile meets RoHs leadfree process.

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

## 5. SAFETY

### 5-1. Agency Approval Status

UL TÜV Pending.

## WARNING

- Use PPTC beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- PPTC are intended for protection against occasional over current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
- Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.
- Use PPTC with a large inductance in circuit will generate a circuit voltage ( $L \cdot di/dt$ ) above the rated voltage of the PPTC.
- Avoid impact PPTC device its thermal expansion like placed under pressure or installed in limited space.
- Contamination of the PPTC material with certain silicon based oils or some aggressive solvents can adversely impact the performance of the devices. PPTC SMD can be cleaned by standard methods.
- Requests that customers comply with our recommended solder pad layouts and recommended reflow profile. Improper board layouts or reflow profile could negatively impact solderability performance of our devices.