

# 1210

- Features
- ☒ Surface Mount Devices
  - ☒ Lead free device
  - ☒ Surface Mount packaging for automated assembly
  - ☒ Agency recognition: UL

- Applications
- Almost anywhere there is a low voltage power supply, up to 30V and a load to be protected, including:
- ☒ Computer mother board, Modem, USB hub
  - ☒ PDAs & Charger, Analog & digital line card
  - ☒ Digital cameras, Disk drivers, CD-ROMs,



## Performance Specification

Model	V <sub>max</sub> (Vdc)	I <sub>max</sub> (A)	I <sub>hold</sub> @25°C (A)	I <sub>trip</sub> @25°C (A)	P <sub>d</sub> Max. (W)	Maximum Time To Trip		Resistance	
						Current (A)	Time (Sec)	R <sub>i min</sub> (Ω)	R <sub>1 max</sub> (Ω)
BpS10-050-30	30.0	100	0.05	0.15	0.6	0.3	1.50	2.800	50.000
BpS10-100-30	30.0	100	0.10	0.30	0.6	0.5	0.60	0.800	15.000
BpS10-200-30	30.0	100	0.20	0.40	0.6	8.0	0.02	0.400	5.000
BpS10-350-06	6.0	100	0.35	0.75	0.6	8.0	0.20	0.200	1.300
BpS10-500-13	13.2	100	0.50	1.00	0.6	8.0	0.10	0.180	0.900
BpS10-750-06	6.0	100	0.75	1.50	0.6	8.0	0.10	0.070	0.400
BpS10A01.10-06	6.0	100	1.10	2.20	0.6	8.0	0.30	0.050	0.210
BpS10A01.50-06	6.0	100	1.50	3.00	0.6	8.0	0.50	0.030	0.110

I<sub>hold</sub> = Hold Current. Maximum current device will not trip in 25°C still air.

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

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

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

P<sub>d</sub> = Maximum power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.

R<sub>imin/max</sub> = Minimum/Maximum device resistance prior to tripping at 25°C.

R<sub>1 max</sub> = Maximum device resistance is measured one hour post reflow.

CAUTION : Operation beyond the specified ratings may result in damage and possible arcing and flame.

## 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
Ambient operating conditions :	- 40 °C to 85 °C	
Maximum surface temperature of the device in the tripped state is 125 °C		

AGENCY APPROVALS :

U.L pending

## I<sub>hold</sub> versus temperature

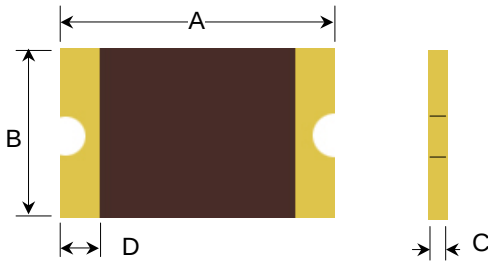
Model	Maximum ambient operating temperature (T <sub>mao</sub> ) vs. hold current (I <sub>hold</sub> )								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
BpS10-050-30	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.02
BpS10-100-30	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.05	0.03
BpS10-200-30	0.29	0.26	0.22	0.20	0.16	0.14	0.13	0.11	0.08
BpS10-350-06	0.47	0.45	0.40	0.35	0.33	0.28	0.24	0.21	0.18
BpS10-500-13	0.76	0.67	0.58	0.50	0.43	0.40	0.36	0.32	0.28
BpS10-750-06	1.00	0.97	0.86	0.75	0.64	0.59	0.54	0.48	0.40
BpS10A01.10-06	1.69	1.48	1.29	1.10	0.88	0.76	0.65	0.57	0.43
BpS10A01.50-06	2.13	1.92	1.71	1.50	1.26	1.14	1.01	0.89	0.71

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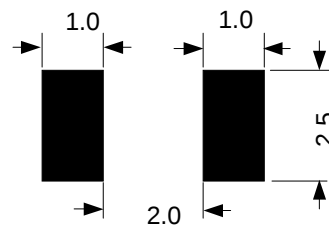
## Construction and Dimension (Unit:mm)

Model	A		B		C		D
	Min.	Max.	Min.	Max.	Min.	Max.	Min.
BpS10-050-30	3.00	3.43	2.35	2.80	0.30	0.80	0.30
BpS10-100-30	3.00	3.43	2.35	2.80	0.30	0.80	0.30
BpS10-200-30	3.00	3.43	2.35	2.80	0.30	0.80	0.30
BpS10-350-06	3.00	3.43	2.35	2.80	0.30	0.80	0.30
BpS10-500-13	3.00	3.43	2.35	2.80	0.30	0.80	0.30
BpS10-750-06	3.00	3.43	2.35	2.80	0.30	0.80	0.30
BpS10A01.10-06	3.00	3.43	2.35	2.80	0.30	0.80	0.30
BpS10A01.50-06	3.00	3.43	2.35	2.80	0.60	1.40	0.30

## Dimensions & Marking



## Recommended pad layout (mm)



## Termination pad characteristics

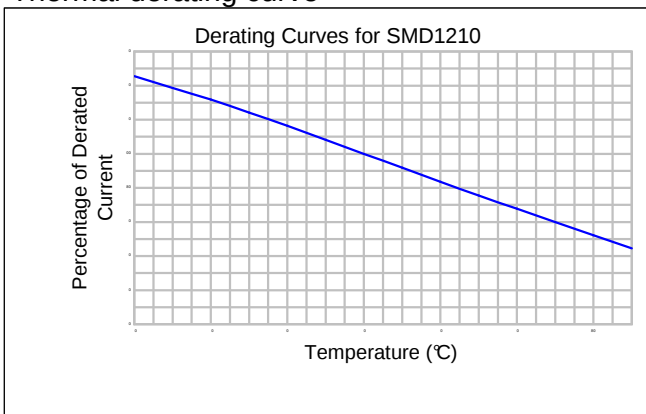
Terminal pad materials : Tin-Plated Nickel-Copper or Gold-Plated Nickel-Copper

Terminal pad solderability : Meets EIA specification RS186-9E and ANSI/J-STD-002 Category 3.

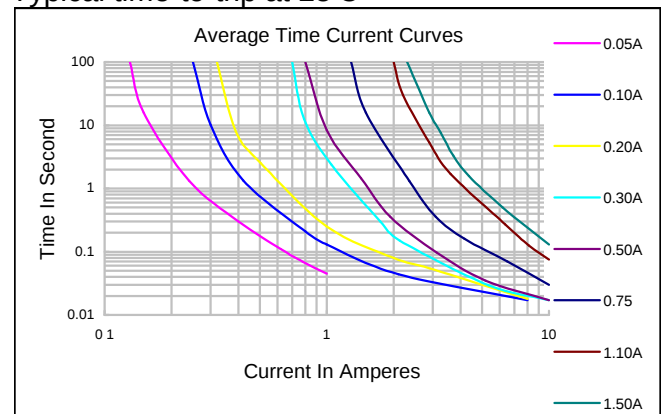
## Rework

Use standard industry practices, the removal device must be replaced with a fresh one.

## Thermal derating curve



## Typical time-to-trip at 25°C



## 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 ( $L di/dt$ ) 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.