2920 Serie

Pb RoHS

Performance Specification

Model	V_{max} (Vdc)	I_{max} (A)	I_{hold} @25℃ (A)	I_{trip} @25℃ (A)	P_d Max. (W)	Maximum Time To Trip Current (A)	Maximum Time To Trip Time (Sec)	Resistance Ri_{min} (Ω)	Resistance $R1_{max}$ (Ω)
BpS20-300-60	60	10	0.30	0.60	1.5	1.5	3.0	0.600	4.800
BpS20-500-60	60	10	0.50	1.00	1.5	2.5	4.0	0.180	1.400
BpS20-750-33	33	40	0.75	1.50	1.5	8.0	0.3	0.100	1.000
BpS20A01.00-33	33	40	1.10	2.20	1.5	8.0	0.5	0.065	0.410
BpS20A01.25-33	33	40	1.25	2.50	1.5	8.0	2.0	0.050	0.250
BpS20A01.50-33	33	40	1.50	3.00	1.5	8.0	2.0	0.035	0.230
BpS20A01.85-33	33	40	1.85	3.70	1.5	8.0	2.5	0.030	0.150
BpS20A02.00-16	16	40	2.00	4.00	1.5	8.0	4.5	0.020	0.120
BpS20A02.50-16	16	40	2.50	5.00	1.5	8.0	16.0	0.020	0.085
BpS20A02.60-06	6	40	2.60	5.20	1.5	8.0	10.0	0.014	0.075
BpS20A03.00-16	16	40	3.00	6.00	1.5	8.0	20.0	0.012	0.048

I_{hold} = Hold Current. Maximum current device will not trip in 25℃ still air.
Itrip = Trip Current. Minimum current at which the device will always trip in 25℃ still air.
V_{max} = Maximum operating voltage device can withstand without damage at rated current (Imax).
I_{max} = Maximum fault current device can withstand without damage at rated voltage (Vmax).
Pd = Maximum power dissipation when device is in the tripped state in 25℃ still air environment at rated vo ltage.
Rimin/max = Minimum/Maximum device resistance prior to tripping at 25℃.
$R1_{max}$ = 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℃, 85% R.H. , 168 hours	±5% typical
Thermal shock	+85℃ to -40℃, 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 ℃ to 85 ℃	
Maximum surface temperature of the device in the tripped state is 125 ℃		

AGENCY APPROVALS : U.L approved

I_{hold} versus temperature

Model	Maximum ambient operating temperature (Tmao) vs. hold current (Ihold)								
	-40℃	-20℃	0℃	25℃	40℃	50℃	60℃	70℃	85℃
BpS20-300-60	0.45	0.40	0.35	0.30	0.25	0.23	0.20	0.17	0.14
BpS20-500-60	0.76	0.67	0.59	0.50	0.42	0.38	0.33	0.29	0.23
BpS20-750-33	1.13	1.01	0.88	0.75	0.62	0.56	0.50	0.44	0.34
BpS20A01.00-33	1.66	1.47	1.29	1.10	0.91	0.83	0.73	0.64	0.50
BpS20A01.25-33	1.89	1.68	1.46	1.25	1.04	0.94	0.83	0.73	0.56
BpS20A01.50-33	2.27	2.01	1.76	1.50	1.25	1.13	1.00	0.87	0.74
BpS20A01.85-33	2.80	2.47	2.17	1.85	1.54	1.39	1.22	1.07	0.85
BpS20A02.00-16	3.02	2.68	2.34	2.00	1.66	1.50	1.32	1.16	0.90
BpS20A02.50-16	3.78	3.35	2.93	2.50	2.08	1.88	1.65	1.45	1.13
BpS20A02.60-06	3.64	3.25	2.91	2.60	2.26	2.08	1.95	1.74	1.13
BpS20A03.00-16	4.53	4.02	3.51	3.00	2.52	2.26	1.99	1.75	1.34

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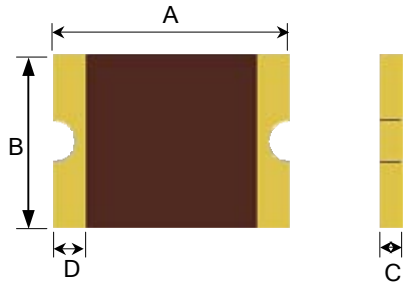
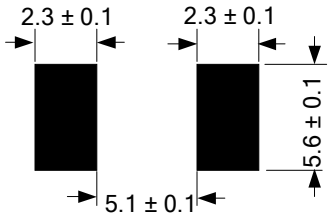
Construction and Dimension (Unit:mm)

Model	A		B		C		D
	Min.	Max.	Min.	Max.	Min.	Max.	Min.
BpS20-300-60	6.73	7.98	4.80	5.44	0.60	1.15	0.30
BpS20-500-60	6.73	7.98	4.80	5.44	0.60	1.15	0.30
BpS20-750-33	6.73	7.98	4.80	5.44	0.60	1.15	0.30
BpS20A01.00-33	6.73	7.98	4.80	5.44	0.40	1.00	0.30
BpS20A01.25-33	6.73	7.98	4.80	5.44	0.40	0.90	0.30
BpS20A01.50-33	6.73	7.98	4.80	5.44	0.40	0.90	0.30
BpS20A01.85-33	6.73	7.98	4.80	5.44	0.30	0.90	0.30
BpS20A02.00-16	6.73	7.98	4.80	5.44	0.30	0.90	0.30
BpS20A02.50-16	6.73	7.98	4.80	5.44	0.30	0.90	0.30
BpS20A02.60-06	6.73	7.98	4.80	5.44	0.30	0.90	0.30
BpS20A03.00-16	6.73	7.98	4.80	5.44	0.30	0.90	0.30

Dimensions & Marking



Recommended pad layout (mm)



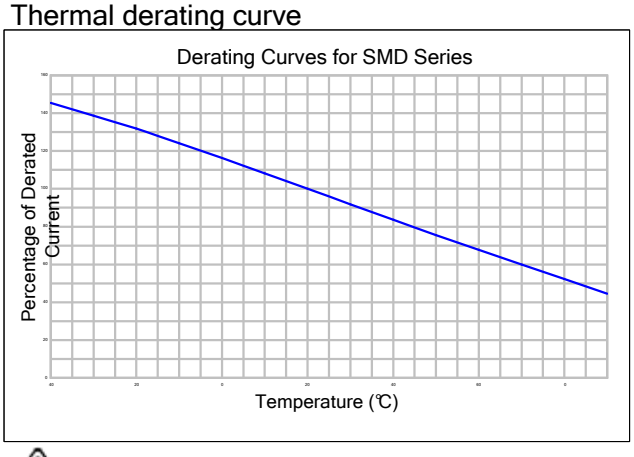
Termination pad characteristics

Terminal pad materials	Tin-Plated Nickle-Copper or Gold-Plated Nickle-Copper
Terminal pad solderability	Meets EIA specification RS186-9E and ANSI/J-STD-002 Category 3.

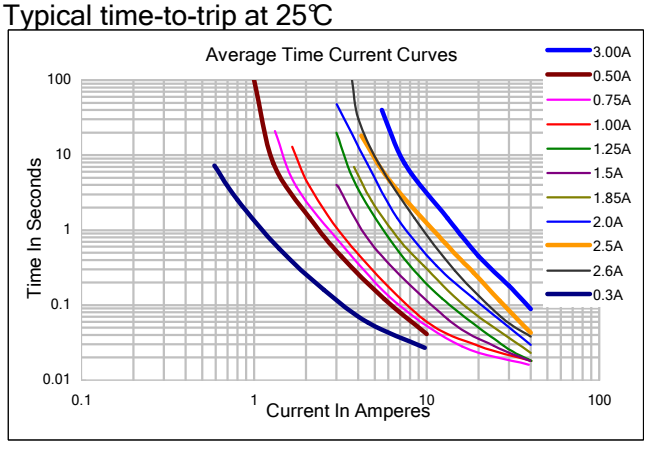
Rework

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

Thermal derating curve



Typical time-to-trip at 25℃



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 occasiona l over current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are antic ipated.

· Device performance can be impacted negatively if d evices are handled in a manner inconsistent with re commended electronic, thermal, and mechanical procedures for electronic components.

· Use PPTC with a large inductance in circuit will g enerate a circuit voltage (L di/dt) above the rated voltage of the PPTC.

· Avoid impact PPTC device its thermal expansion lik e placed under pressure or installed in limited space.

· Contamination of the PPTC material with certain si licon based oils or some aggressive solvents can ad versely impact the performance of the devices. PPTC SMD can be cleaned by standard method s.

· Requests that customers comply with our recommende d solder pad layouts and recommended reflow profile . Improper board layouts or reflow profile could negatively impact solderability perfo rmance of our devices.

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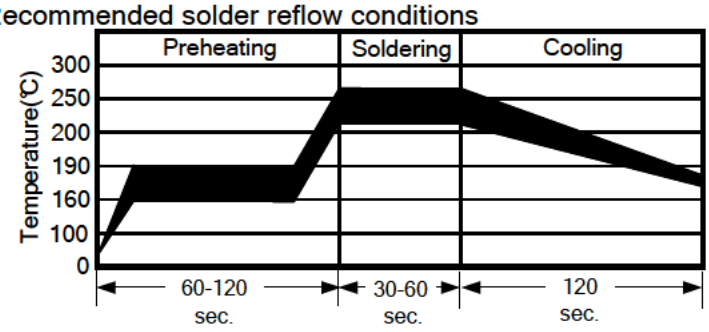
Recommended solder reflow conditions

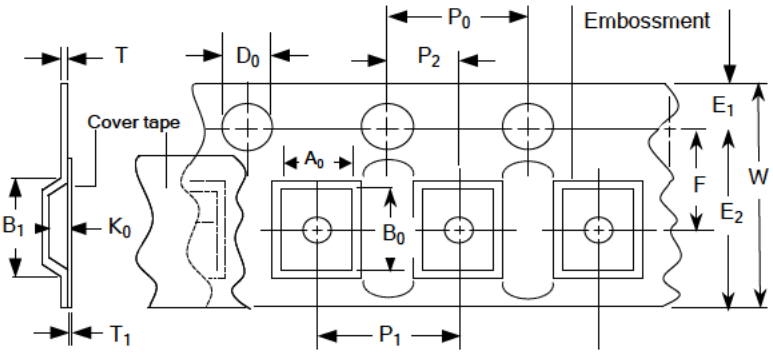


Recommended reflow methods:
IR, vapor phase oven, hot air, oven.
Devices are not designed to be wave soldered to the bottom side of the board.
Recommended maximum paste thickness is 0.25 mm (0.010 inch).
Devices can be cleaned using standard method and solvents.
Note: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

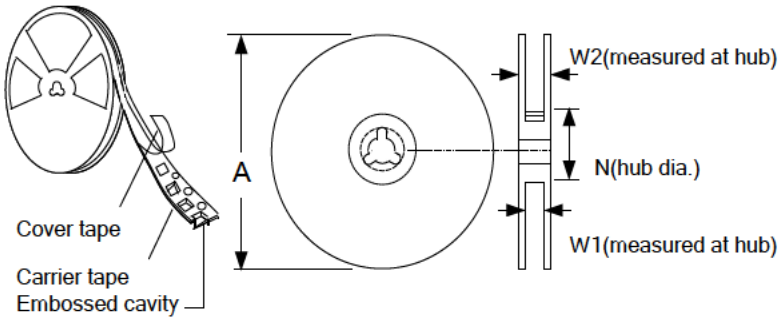
Tape and reel specifications (mm)

	SMD
Governing Specifications	EIA 481-2
W	16.0 ± 0.3
P_0	4.0 ± 0.10
P_1	8.0 ± 0.10
P_2	2.0 ± 0.05
A_0	5.70 ± 0.10
B_0	8.00 ± 0.10
B_1max.	12.1
D_0	1.5 + 0.1, -0
F	7.5 ± 0.05
E_1	1.75 ± 0.10
E_2min.	14.25
Tmax.	0.6
T_1max.	0.1
K_0	0.80 ± 0.1
Leader min.	390
Trailer min.	160
Reel Dimensions	
A max.	178
N min.	60
W_1	16.4 + 2.0, -0.0
W_2max.	22.4

EIA Tape Component Dimentions



EIA Reel Dimentions



Storage and handling

- Storage conditions 40℃ max, 70% R.H.
- Devices may not meet specified performance if storage conditions are exceeded.