

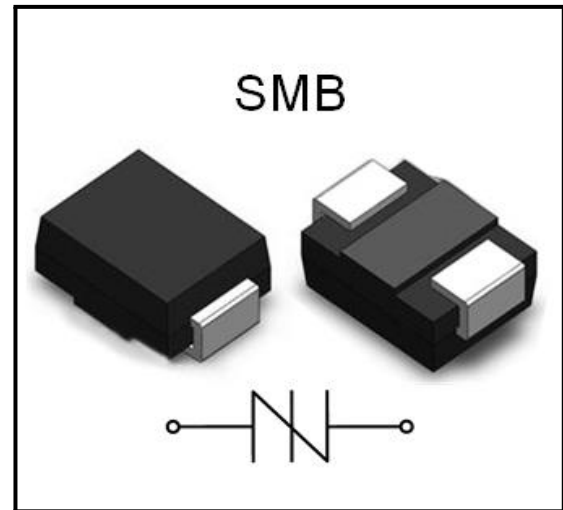
BP102C2B

Thyristor Surge Suppressor

Features

- Silicon technology
- Cannot be damaged by voltage
- Low capacitance
- Eliminate voltage overshoot
- Epoxy resin package
- Will not fatigue
- Complies with following standards:
 - GR1089
 - ITU K.20, K.21 and K.45
 - IEC 60950
 - UL 60950
 - TIA-968
- RoHS Compliant

Package



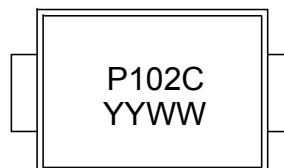
Mechanical Characteristics

- Package: SMB plastic package.
- Lead Finish: Matte Tin
- Case Material: Epoxy Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020

Applications

- COMMERCIAL SYSTEMS
- INDUSTRIAL & INSTRUMENTATION
- COMMUNICATIONS

Making Information



YYWW=Date Code

Summary of Packing Options

Order code	Marking	Package	Base qty	Delivery mode
BP102C2B	P102C	SMB	3000	Tape and reel



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Absolute Maximum Ratings

Parameter	Symbol	Value	Units
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	20	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	100	°C/W
Operating Temperature Range	T_J	-40 to 150	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C

Electrical Parameters ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Pact Number	Reverse Breakdown voltage (V_B)	Surge Starting Voltage (V_S)	Surge Capacity 8/20us		C_O TYP
	(V)	(V)	V_{PP}	I_{PP}	1MHZ, 2V _{DC}
	Range.	MAX.	(V)	(A)	(pF)
BP102C2B	800~1100	1000	6000	500	40

Note: pulse waveform 8/20us, $R_i=12\Omega$



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Ratings and Characteristic Curves($T_A = 25^\circ\text{C}$ unless otherwise noted)

Figure 1: V_S Change vs. Junction Temperature

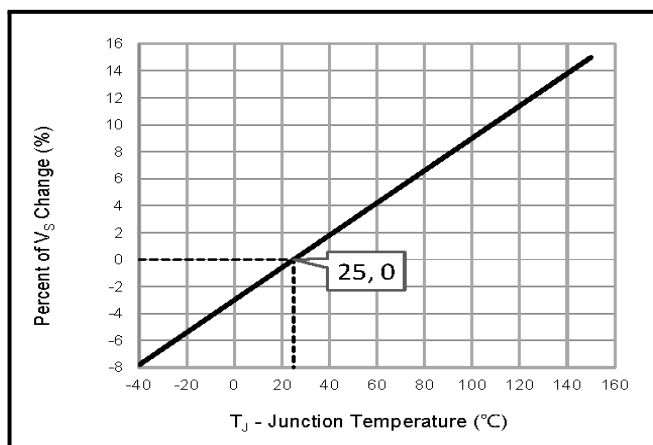


Figure 2: DC Holding Current vs. Case Temperature

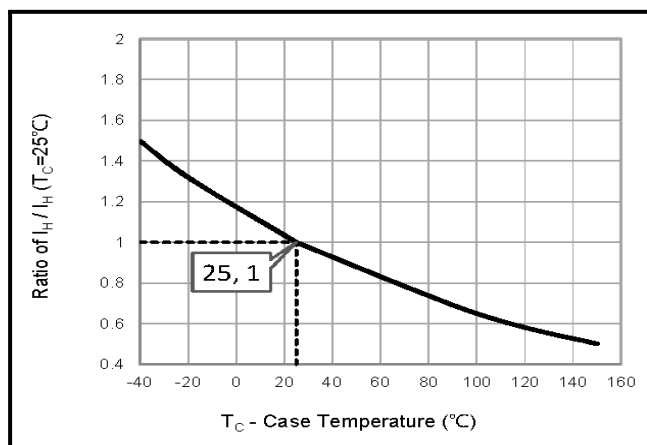


Figure 3 : t_r/t_d Pulse Waveform

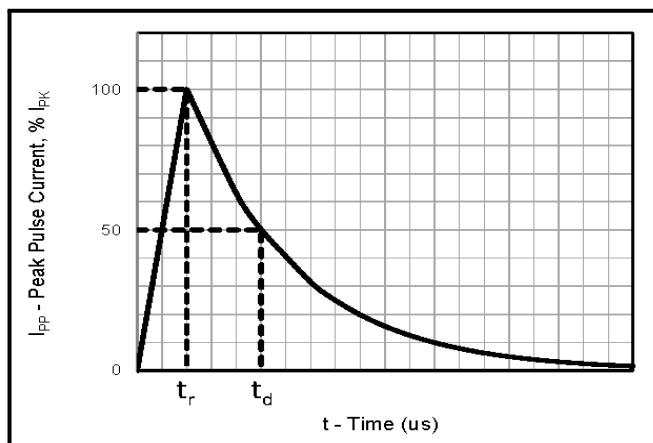
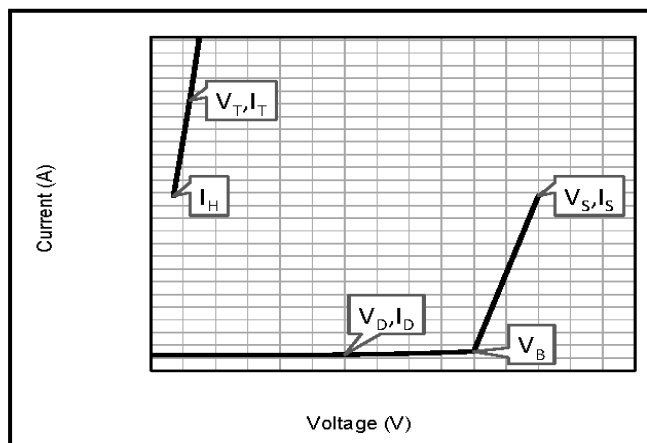


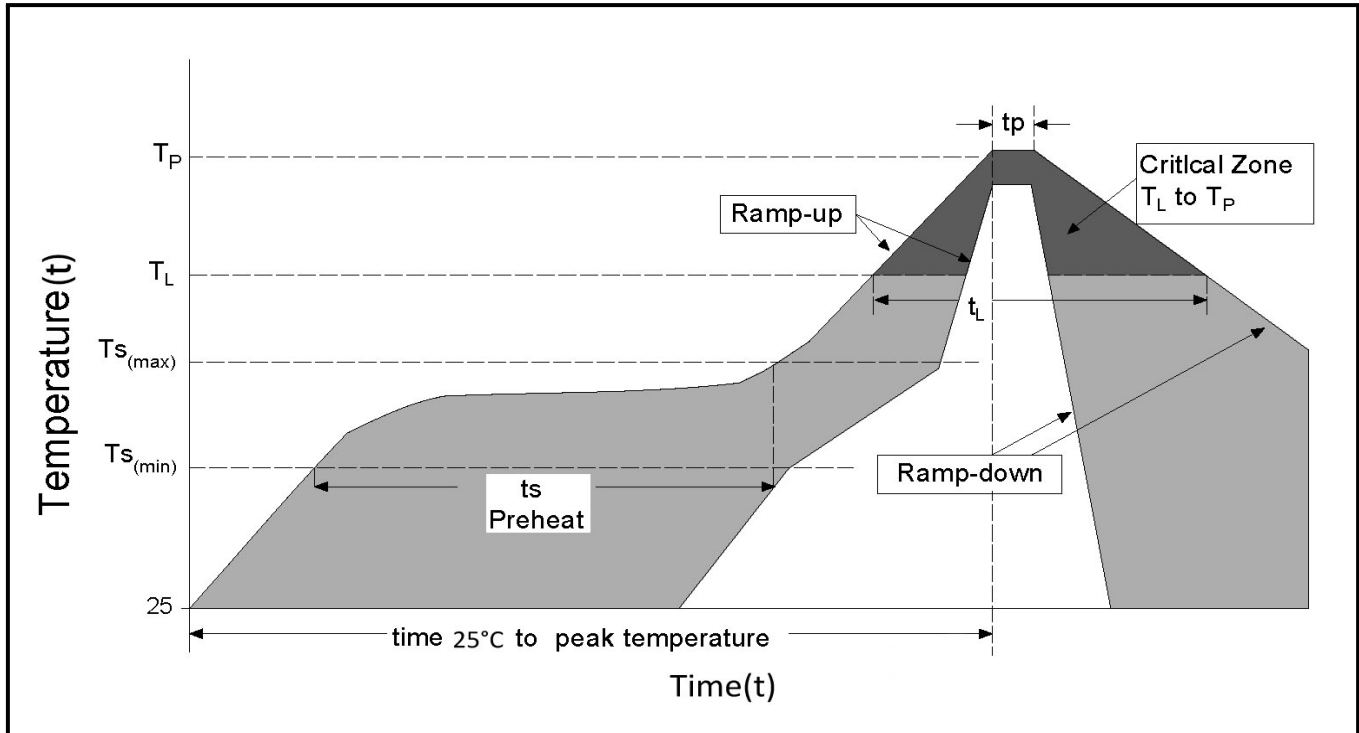
Figure 4: VI Curve



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Soldering Parameters



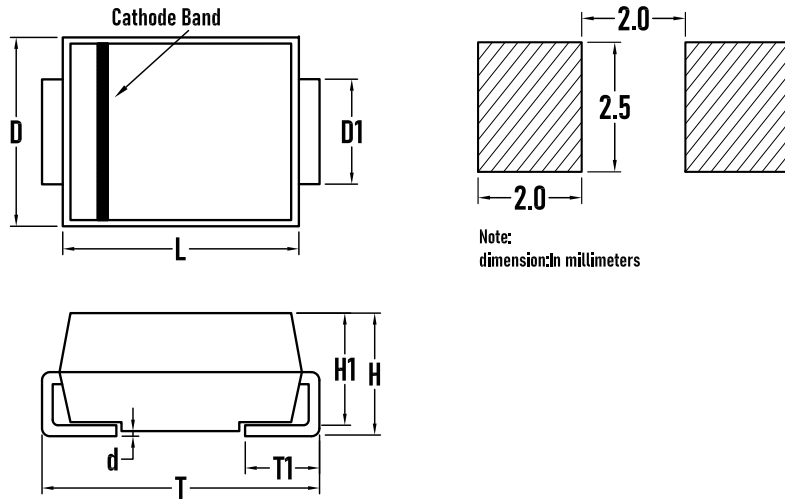
Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ($T_S(\min)$)	150°C
	- Temperature Max ($T_S(\max)$)	200°C
	- Time (min to max) (t_S)	60 - 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_S(\max)$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Time (t_L)	60 - 150 secs
Peak Temperature (T_P)		260 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 secs
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (t)		8 minutes Max.
Do not exceed		260°C



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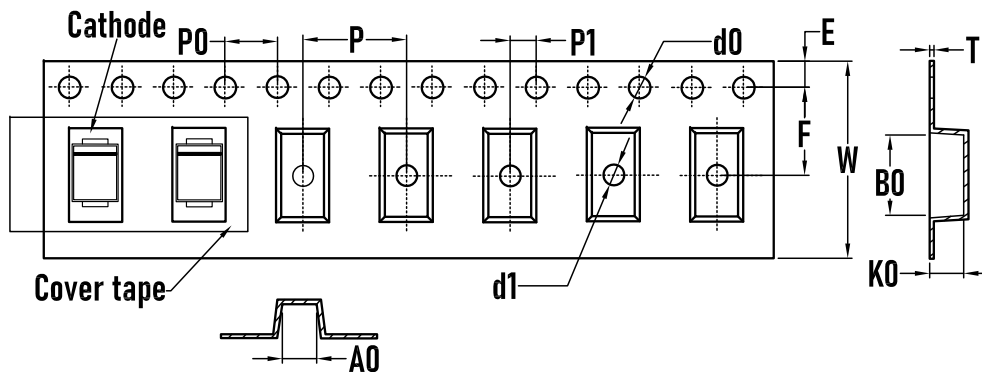
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Outline Drawing - SMB



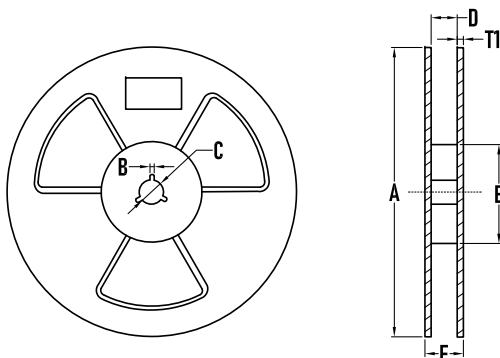
SYMBOL	MILLIMETER		Inches	
	MIN.	MAX.	MIN.	MAX.
D	3.3	3.9	0.130	0.154
D1	1.7	2.3	0.067	0.091
T	5.1	5.7	0.201	0.224
T1	0.8	1.6	0.031	0.063
d	—	0.3	—	0.012
H1	2.0	2.4	0.079	0.094
H	2.1	2.5	0.083	0.098
L	4.0	4.7	0.157	0.185

Packaging Tape - SMB



SYMBOL	MILLIMETER
A0	3.60±0.1
B0	5.45±0.1
d0	1.50±0.1
d1	1.50±0.1
E	1.75±0.1
F	5.50±0.1
K0	2.30±0.1
P	8.00±0.1
P0	4.00±0.1
P1	2.00±0.1
W	12.00±0.1
T	0.22±0.02

Packaging Reel



SYMBOL	MILLIMETER
A	323±2
B	3.0±0.2
C	15.0±0.5
D	13±2
E	73±2
T1	2.2±0.2
Quantity	3000PCS

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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information.

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