

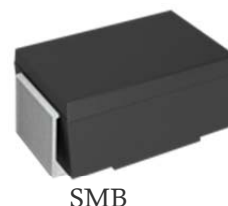
Transient Voltage Suppressor

Version: A2 2019-05-31

Features

- Surge rating 500A@8/20us
- IEC 61000-4-2(ESD) ± 15KV(air), ± 8KV(contact)
- Low clamping voltage
- Moisture sensitivity level: Level 1
- Bidirectional polar

Exterior



SMB

Application Information

- DC Power
- Alarm
- Other Port

Package (Top View)



Agency Approvals

Icon	Description
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC 61249-2-21:2003

Schematic symbol



BI-directional

Part Number and Electrical Parameter

Part Number	$I_R@V_R$		$V_{BR}@I_t$			$I_{pp}^{\text{①}}$
	μA	V	V		mA	A
	MAX		MIN	MAX		MAX
BV-SMBJ15CAH	1	15	16.7	18.5	1	500

Absolute maximum ratings measured at T= 25°C RH = 45%-75% (unless otherwise noted).

① Surge Waveform: 8/20us;

Part Number System

BV SMBJ 15 C A H
(1) (2) (3) (4) (5) (6)

- (1) Bencent TVS
- (2) SMB Package
- (3) $V_R=15\text{V}$
- (4) Bidirectional polar
- (5) Suffix 'A' denotes 5% tolerance devices
- (6) 500A@8/20

Mark



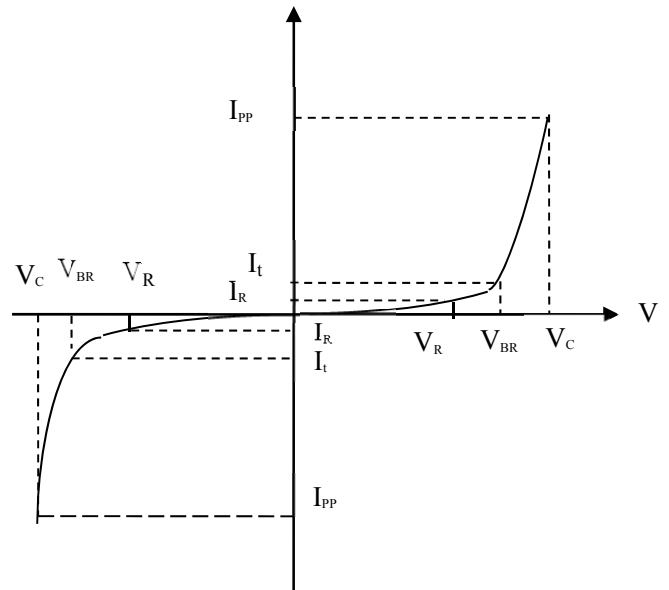
B15CH: Part Number

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V-I Curve

Parameters	Definition
V_C	Clamping voltage
I_{PP}	Surge waveform 10/1000 μ s
V_R	Stand-off Voltage
V_{BR}	Breakdown Voltage
I_R	Reverse Leakage Current
I_t	Test current
P_{pp}	Peak Pulse Power Dissipation



Thermal Considerations

symbol	Parameter	Value	Unit
T_J	Operating Junction Temperature Range	-55 to +150	$^{\circ}C$
T_S	Storage Temperature Range	-55 to +150	$^{\circ}C$

Environmental Characteristics

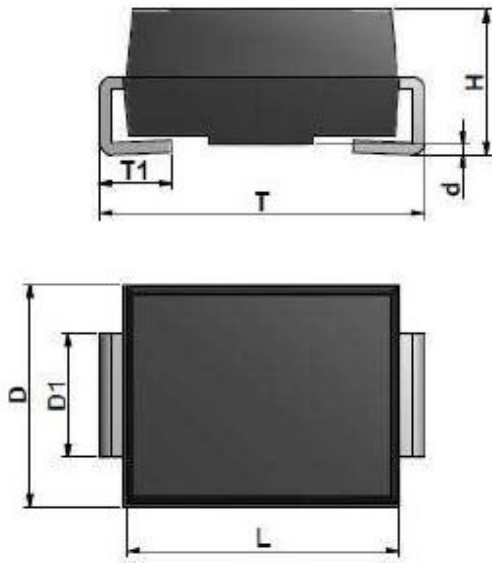
Testing Items	Technical Standards
High Temperature Reverse Bias Test	Temperature: $150 \pm 3^{\circ}C$, Bias=80% V_{DRM} Time: 96H
High Temperature Life Test	Temperature: $150^{\circ}C$ Time: 168H
High-low Temperature Cycle Test	Temperature: From $-40^{\circ}C$ to $125^{\circ}C$ Dwell time: 30min, 10-100 cycles
High Temperature & High Humidity Test	Temperature: $85^{\circ}C$ Humidity: 85% Test time: 168H
Pressure Cooker Test	Temperature: $121^{\circ}C$, 2atm. Humidity: 100% Test time: 24H to 168H
Resistance of Soldering Heat	Temperature: $260 \pm 5^{\circ}C$ Time of dip soldering: 10s, 3times

Note: The above testing items can be specified by customers by contacting Bencent service

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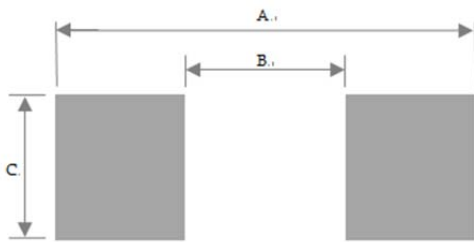
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Product Dimensions



REF.	mm	inch
D	3.6±0.3	0.142±0.012
D1	2±0.2	0.079±0.008
L	4.6±0.3	0.181±0.012
T	5.4±0.3	0.213±0.012
T1	1.2±0.3	0.047±0.012
d	0~0.4	0~0.016
H	2.00~2.60	0.079~0.102

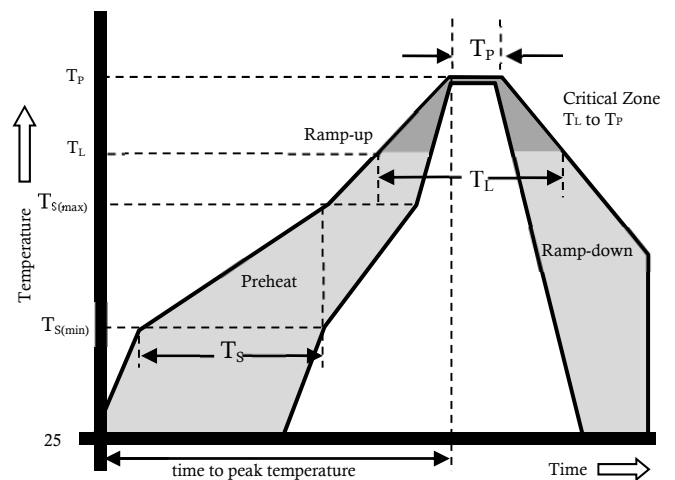
Recommended Soldering Pad



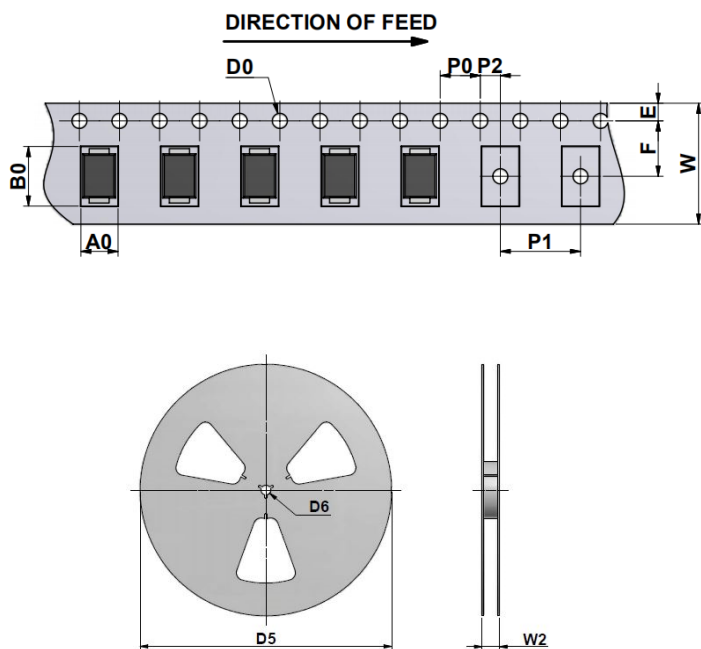
REF	mm	inch
A	5.45	0.215
B	2.45	0.097
C	2.15	0.085

Reflow Profile

Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time (Min to Max)	60 – 180 secs.
Average ramp up rate (Liquidus Temp (T _L) to peak)		3°C/sec. Max.
T _S (max) to T _L - Ramp-up Rate		3°C/sec. Max.
Reflow	- Temperature (T _L) (Liquidus)	+217°C
	- Temperature (T _L)	60 – 150 secs.
Peak Temp (T _P)		+(260±0/-5)°C
Time within 5°C of actual Peak Temp (T _P)		30 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T _P)		8 min. Max.
Do not exceed		+260°C



Package Reel Information



REF.	mm	inch
W	12±1	0.472±0.039
E	1.75±0.3	0.069±0.012
F	5.5±0.3	0.217±0.012
D0	1.55±0.15	0.061±0.006
P0	4.0±0.2	0.157±0.008
P1	8.0±0.2	0.315±0.008
P2	2.0±0.2	0.079±0.008
A0	3.6±0.3	0.142±0.012
B0	5.7±0.3	0.224±0.012
D5	Ø330	Ø13
D6	Ø13.5±1.0	Ø0.531±0.039
W2	18±2.0	0.709±0.079

OUTLINE	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)	CARTON SIZE(mm)		
				L	W	H
TAPING	3,000	48,000	330	360	360	385