

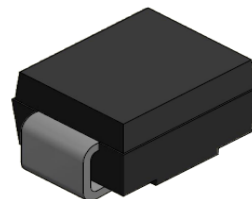
Transient Voltage Suppressor

Version: A0 2021-06-18

Features

- 1200Watts peak pulse power ($t_p=10/1000\mu\text{S}$)
- IEC 61000-4-2(ESD) $\pm 30\text{KV}$ (air), $\pm 30\text{KV}$ (contact)
- Low clamping voltage
- Moisture sensitivity level: Level 1
- Bidirectional polar

Exterior



DO214AA(SMB)

Application Information

- DC Power
- Alarm
- Other Port

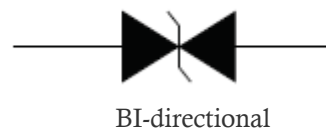
Package (Top View)



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	$I_R@V_R$		$V_{BR}@I_t$			$V_C@I_{pp}^{①}$	
	μA	V	V	mA		V	A
	MAX		MIN	MAX		MAX	
BV-SMBJ28CAH	1	28	30	36	1	48	25

Absolute maximum ratings measured at $T = 25^\circ\text{C}$ RH = 45%-75% (unless otherwise noted).

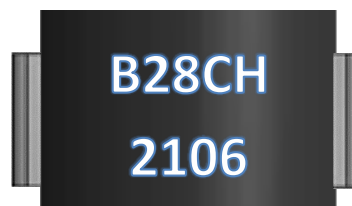
① Surge Waveform: 10/1000 μS

Part Number System

BV SMBJ 28 C A H
(1) (2) (3) (4) (5) (6)

- (1) Bencent TVS
- (2) SMB Package
- (3) $V_R=28\text{V}$
- (4) Bidirectional polar
- (5) Suffix 'A' denotes 5% tolerance devices
- (6) Bencent internal code

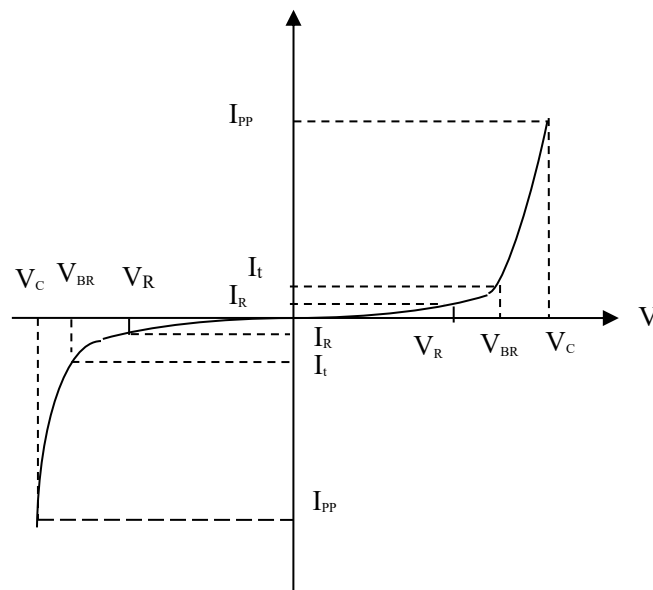
Mark



B28CH: Part Number
2106: June, 2021

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	$^{\circ}\text{C}$
T_S	Storage Temperature Range	-55 to +150	$^{\circ}\text{C}$

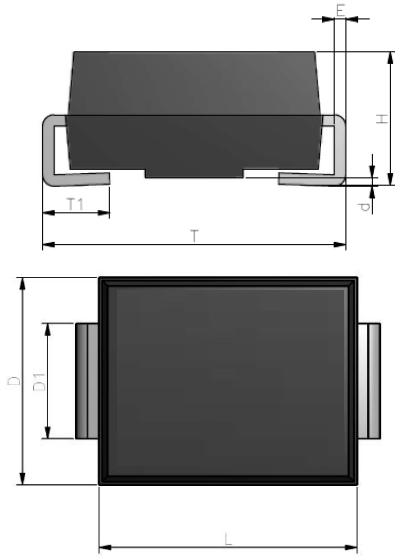
Environmental Characteristics

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

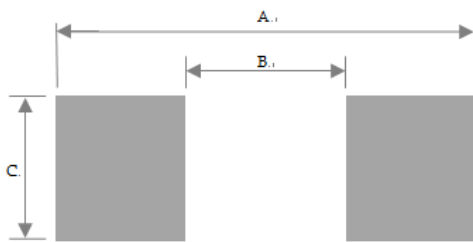
Note: The above testing items can be specified by customers by contacting Bencent service

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Product Dimensions


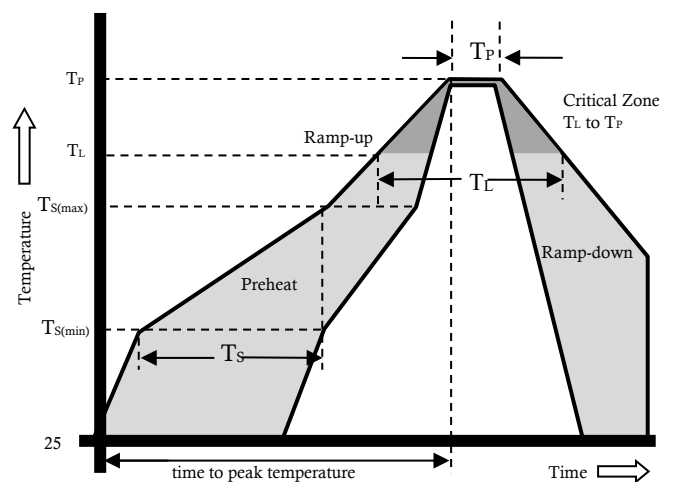
REF.	mm	inch
D	3.6 ± 0.3	0.142 ± 0.012
D1	2 ± 0.15	0.079 ± 0.006
L	4.6 ± 0.3	0.181 ± 0.012
T	5.4 ± 0.3	0.213 ± 0.012
T1	1.1 ± 0.3	0.043 ± 0.012
d	0~0.4	0~0.016
H	2.10~2.60	0.083~0.102
E	0.18~0.25	0.007~0.010

Recommended Soldering Pad


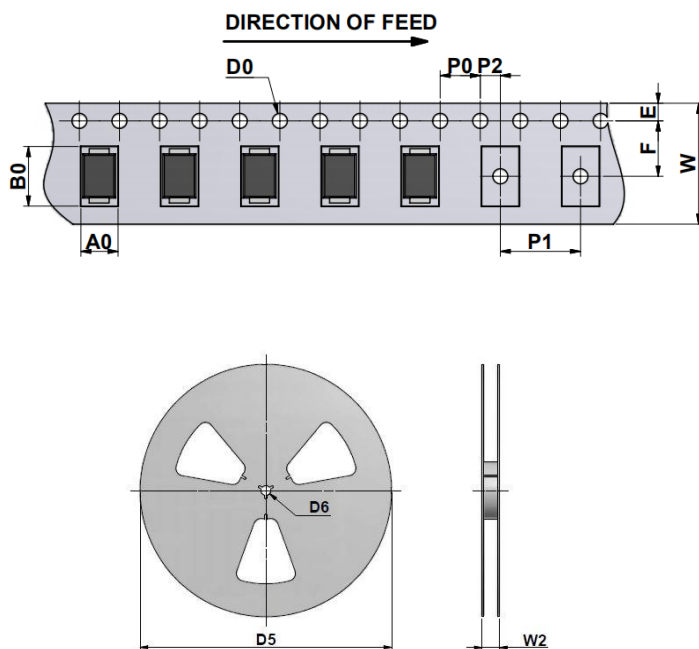
REF	mm	inch
A	5.45	0.215
B	2.45	0.097
C	2.15	0.085

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