

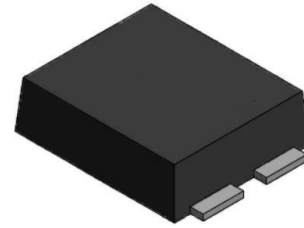
Transient Voltage Suppressor

Version: A2 2020-06-12

Features

- Small size: SMC-T
- Surge rating: 500A@8/20us (PIN 1 or 3 to 2)
- Surge rating: 4KV@10/700us (PIN 1 or 3 to 2)
- Bi-directional

Exterior



SMC-T

Application Information

- POE

Agency Approvals

Icon	Description
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

Part Number and Electrical Parameter

Part Number	I _{DRM} @V _{DRM}		V _{BR} ^① @I _R		V _c @I _{pp} ^②		I _{pp} ^③	I _{pp} ^④	Co ^⑤
	μA	V	V	mA	V	A	A	A	PF
	MAX		MIN		MAX		MIN	MIN	MAX
BV-SMCT-58CA	5	58	64.4	1	71.2	1	500	100	2500

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

- ① V_{BR} is measured at I_R=1Ma (PIN1 or 3 to 2)
- ② Surge Waveform: 10/1000μ S (PIN1 or 3 to 2)
- ③ Surge Waveform: 8/20μ S (PIN1 or 3 to 2)
- ④ Surge Waveform: 10/700μ S (PIN1 or 3 to 2)
- ⑤ Off-state capacitance is measured in V_{DC}=0V, V_{RMS}=1V, f=1MHz (PIN1 or 3 to 2)

Part Numbering System

BV SMCT 58 C A
(1) (2) (3) (4) (5)

- (1) Bencent TVS
- (2) Package: SMC-T
- (3) VDRM=58V
- (4) Bidirectional polar
- (5) Suffix 'A' denotes 5% tolerance devices

Mark

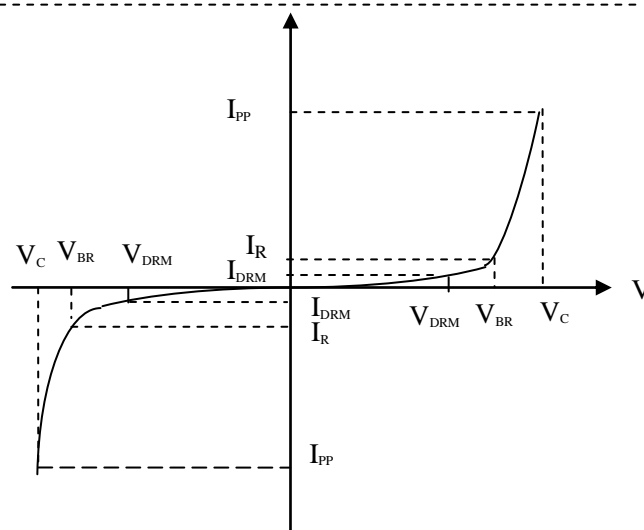


C58CT: Part Number
1503: March, 2015

Transient Voltage Suppressor
V-I Curve

Version: A2 2020-06-12

Parameters	Definition
V_C	Clamping voltage
I_{PP}	Surge waveform 10/1000 μ s
V_{DRM}	Stand-off Voltage
V_{BR}	Breakdown Voltage
I_{DRM}	Reverse Leakage Current
I_R	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

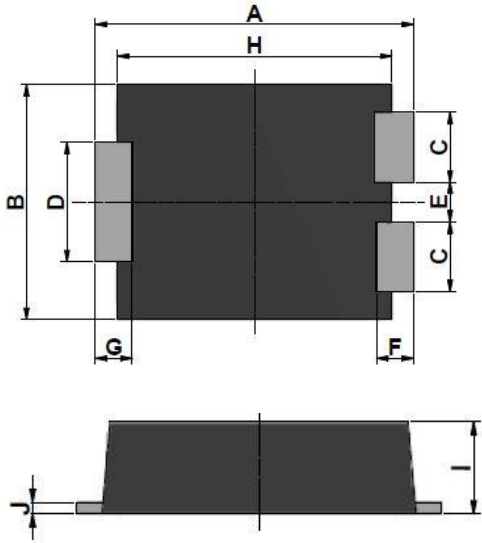
Testing Items	Technical Standards
High Temperature Reverse Bias Test	Temperature: $150 \pm 3^{\circ}C$, Bias=80% V_{DRM} Time: 168H
High Temperature Life Test	Temperature: $150^{\circ}C$ Time: 168H
High-low Temperature Cycle Test	Temperature: From $-40^{\circ}C$ to $125^{\circ}C$ Dwell time: 30min, 10-100 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

Transient Voltage Suppressor

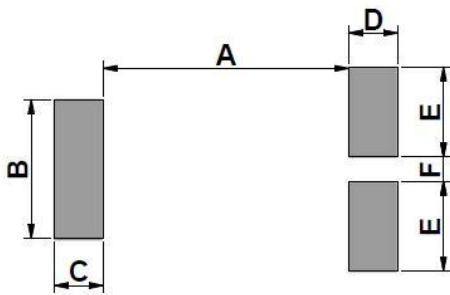
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Product Dimensions



REF	mm	inch
A	8.0±0.3	0.315±0.012
B	5.9±0.3	0.232±0.012
C	1.75±0.1	0.069±0.004
D	3.0±0.2	0.118±0.008
E	1.0±0.2	0.039±0.008
F	0.8±0.25	0.031±0.010
G	0.8±0.25	0.031±0.010
H	6.9±0.3	0.272±0.012
I	2.0±0.2	0.079±0.008
J	0.25±0.05	0.010±0.002

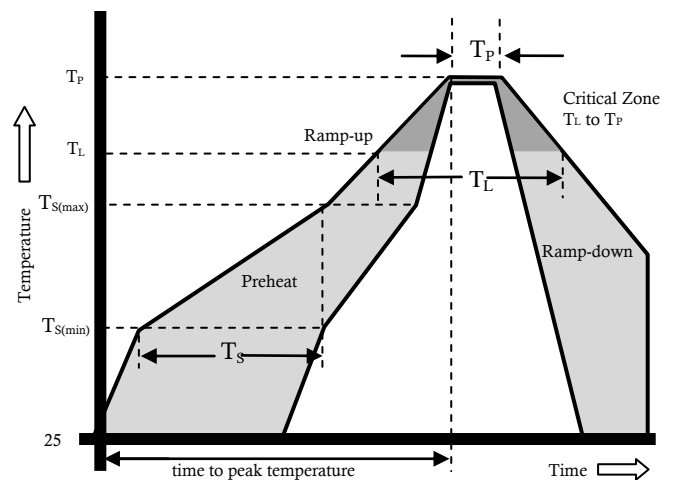
Recommended Soldering Pad



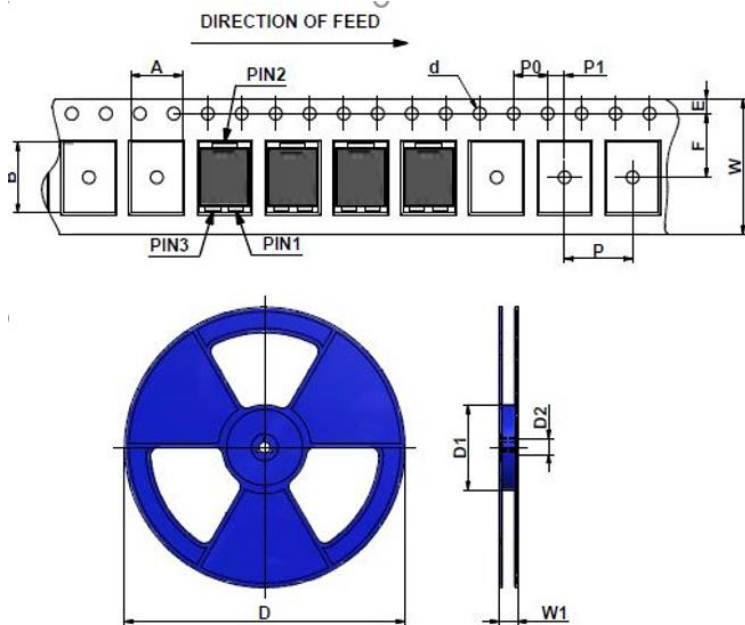
REF	mm	inch
A	6.0	0.236
B	3.4	0.134
C	1.2	0.047
D	1.2	0.047
E	2.2	0.087
F	0.6	0.024

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.
Ts (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)		8 – 15 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
A	6.05±0.2	0.238±0.008
B	8.3±0.2	0.327±0.008
d	1.5±0.15	0.059±0.006
D	type330.0	type13.0
D1	99±1	3.898±0.039
D2	13.3±0.5	0.524±0.020
E	1.75±0.2	0.069±0.008
F	7.5±0.2	0.295±0.008
P	8.0±0.1	0.315±0.004
P0	4.0±0.1	0.157±0.004
P1	2.0±0.1	0.079±.004
W	16.0±0.5	0.630±0.020
W1	21.5±1	0.846±0.039

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