

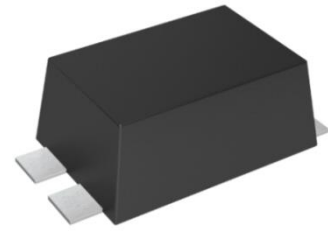
Transient Voltage Suppressor

Version: A3 2023-12-15

Features

- 3000Watts peak pulse power (PIN1,3-2, $t_p=10/1000\mu S$)
- Low clamping voltage
- Moisture sensitivity level: level 1
- Weight 420 mg
- Bi-directional
- Package: SMC-T

Exterior



Application Information

- POE

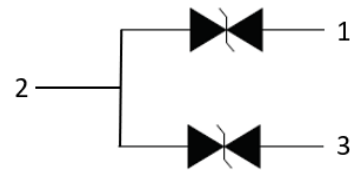
Package (Top View)



Agency Approvals

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

Schematic symbol



Part Number and Electrical Parameter

Part Number	$I_{DRM}@V_{DRM}$		$V_{BR}^{①}@I_R$		$V_c@I_{pp}^{②}$		$V_c@I_{pp}^{②}$		$Co^{③}$
	μA	V	V	mA	V	A	V	A	PF
	MAX	PIN1,3-2	MIN	PIN1,3-2	MAX	PIN1,3-2	MAX	PIN1,3-2	MAX
BV-SMCT-30CA	1	30	33.3	1	36.8	1	48.4	62	2500

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

① V_{BR} is measured at $I_R=1mA$

② Surge Waveform: 10/1000us

③ Off-state capacitance is measured in $V_{DC}=0V$, $V_{RMS}=1V$, $f=1MHz$, PIN1, 3-2

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Part Numbering System

BV SMCT 30 C A
(1) (2) (3) (4) (5)

- (1) Bencent TVS
(2) Package: SMC-T
(3) $V_{DRM}=30V$
(4) Bidirectional polar
(5) Suffix 'A' denotes 5% tolerance devices

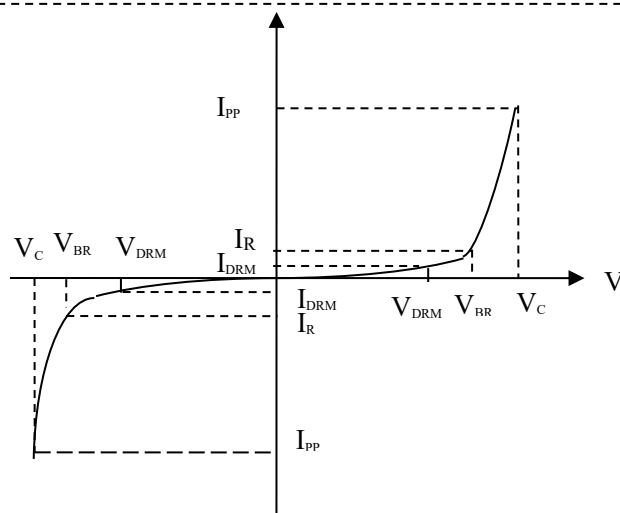
Mark



C30CT: Part Number
1511: November, 2015

V-I Curve

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



Surge Ratings

Current Waveform	8/20 μs	5/320 μs	10/1000 μs
Voltage Waveform	1.2/50 μs	10/700 μs	10/1000 μs
I_{pp}	750A	150A	62A

- Peak pulse current rating (IPP) is repetitive and guaranteed for the life of the product;
- Bencent only management control the test of 10/1000 $\mu s @ 62A$, others IPP value derived from experience. Before used the devices, please make sure the parameters, Bencent have no obligation for these parameters.

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	$^{\circ}C$

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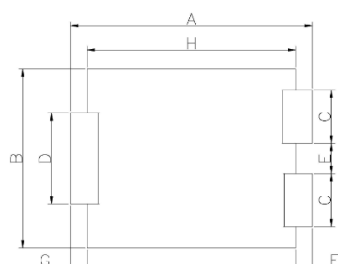
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Environmental Characteristics

Testing Items	Technical Standards
High Temperature Reverse Bias Test	Temperature: $150\pm 3^{\circ}\text{C}$, Bias= $80\%V_{\text{DRM}}$ 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, 10-100 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: 24H to 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

Product Dimensions



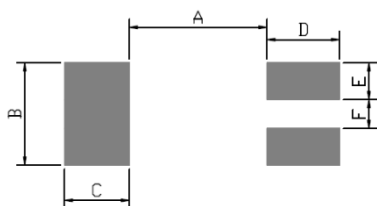
Bottom view



Side view

REF	mm	inch
A	$8.0+0.15/-0.1$	$0.315+0.006/-0.004$
B	5.9 ± 0.1	0.232 ± 0.004
C	1.75 ± 0.03	0.069 ± 0.001
D	3.0 ± 0.2	0.118 ± 0.008
E	1.0 ± 0.2	0.039 ± 0.008
F	0.55 ± 0.1	0.022 ± 0.004
G	0.55 ± 0.1	0.022 ± 0.004
H	6.9 ± 0.3	0.272 ± 0.012
J	0.25 ± 0.05	0.010 ± 0.002
I	2.0 ± 0.1	0.079 ± 0.004

Recommended Soldering Pad

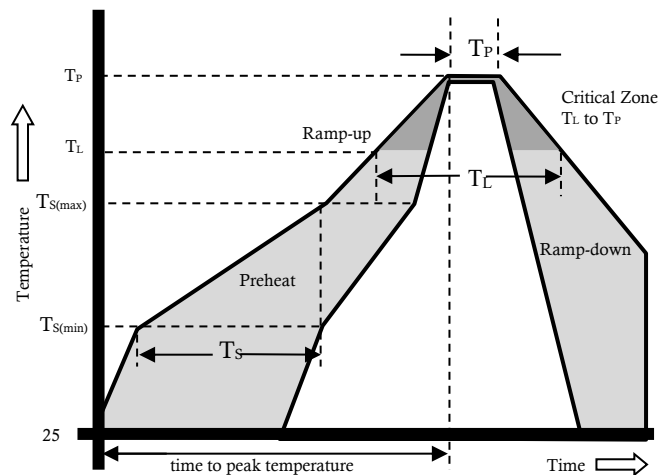


REF	mm	inch
A	6.0	0.236
B	3.4	0.134
C	1.2	0.047
D	1.2	0.047
E	2.2	0.087
F	0.6	0.024

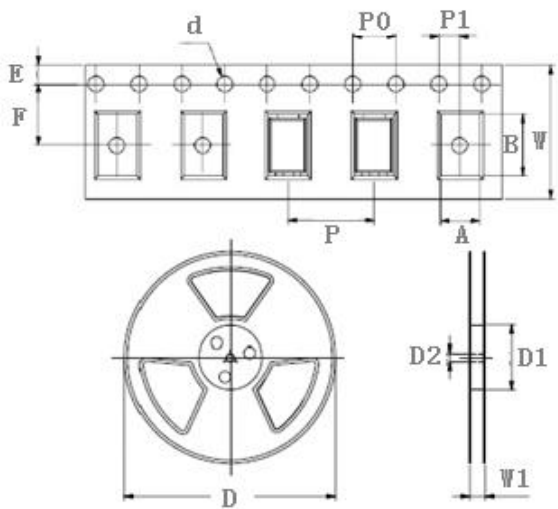
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Reflow Profile

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)		30secs.
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+/-0.1	0.238+/-0.004
B	8.3+/-0.1	0.327+/-0.004
d	1.5+/-0.1	0.059+/-0.004
D	330.0	13.0
D1	99+/-1	3.898+/-0.039
D2	12.28+/-0.3	0.483+/-0.012
E	1.75+/-0.1	0.069+/-0.004
F	7.5+/-0.1	0.295+/-0.004
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+/-0.004
W	16.0+/-0.3	0.630+/-0.008
W1	2.0+/-0.3	0.079+/-0.012

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