

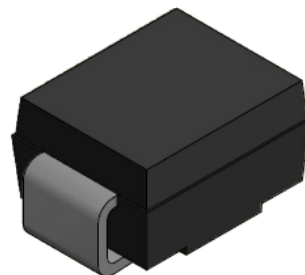
Thyristor Surge Suppressor

Version: A0 2018/5/2

Features

- Excellent capability of absorbing transient surge
- Quick response to surge voltage (nS Level)
- Eliminates overvoltage caused by fast rising transients
- Moisture sensitivity level: Level 1
- Non degenerative

Exterior



DO-214AA (SMB)

Application Information

- xDSL

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	IDRM@ VDRM		Vs ^① @ Is		VT@ IT		IH	Co ^②
	μA	V	V	mA	V	A	mA	pF
	MAX		MAX		MAX		MIN	MAX
BS3500N-C	5	320	400	800	4	2.2	150	35

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

① Vs is measured at 100KV/S

② Off-state capacitance is measured at VDC=2V, VRMS=1V, f=1MHz

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Part Numbering System

Mark

BS	3500	N	C
(1)	(2)	(3)	(4)

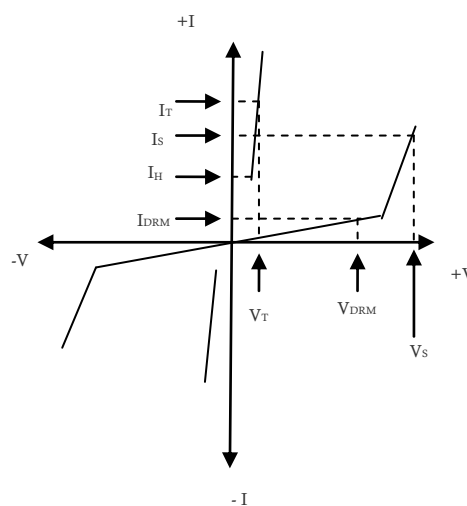


B35NC: Part Number
1804: April, 2018

- (1) Bencent Semiconductor Surge Arrester
(2) Off-state Voltage, e.g. $3500=350 \times 10^0=350V$
(3) Package: DO-214AA (SMB)
(4) Rating Surge Voltage: 6KV (10/700 μ s)

V-I Curve

Parameters	Definition
V_{DRM}	Peak off-state voltage
I_{DRM}	Off-state Current
V_S	Switching Voltage
I_S	Switching Current
I_H	Holding Current
V_T	On-state Voltage
I_T	On-state Current
C_o	Off-state Capacitance



Surge Ratings

Current Waveform	5/320 μ s*
Voltage Waveform	10/700 μ s*
I_{pp}	150A

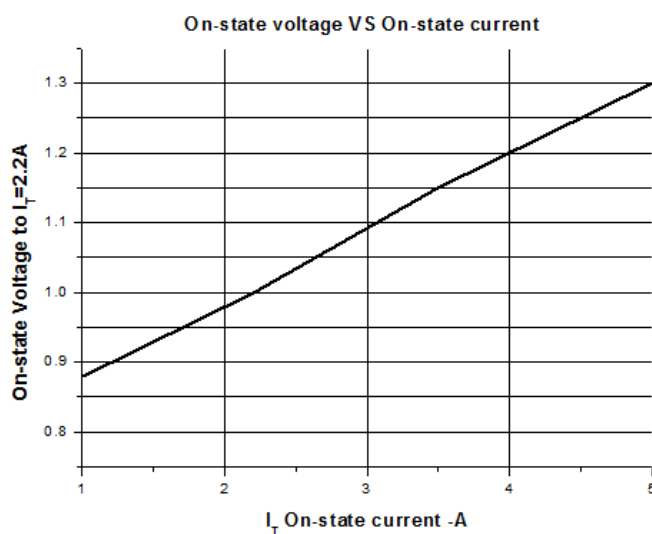
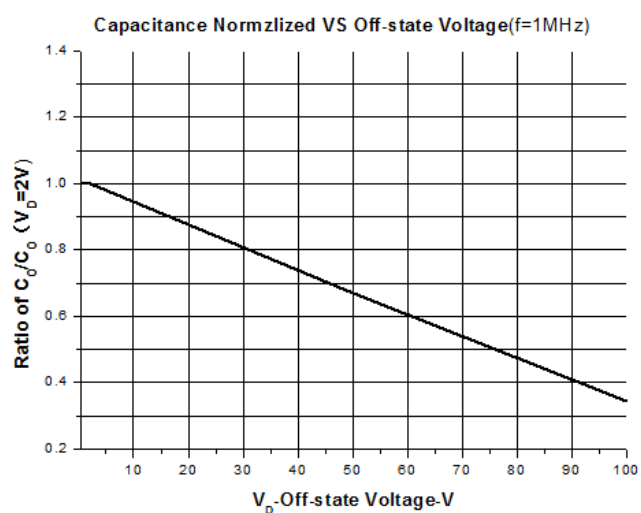
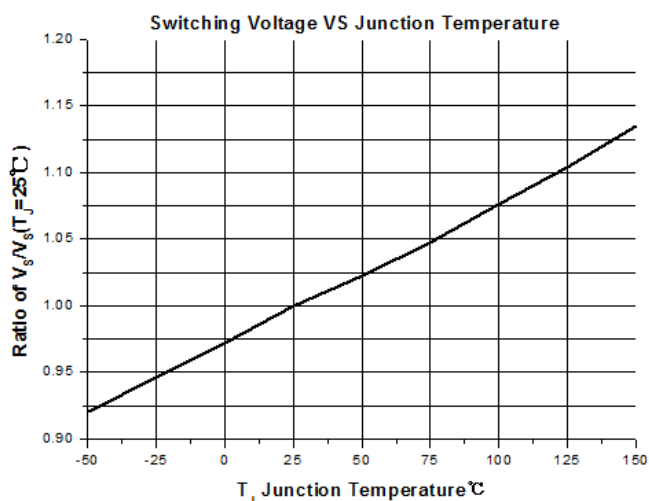
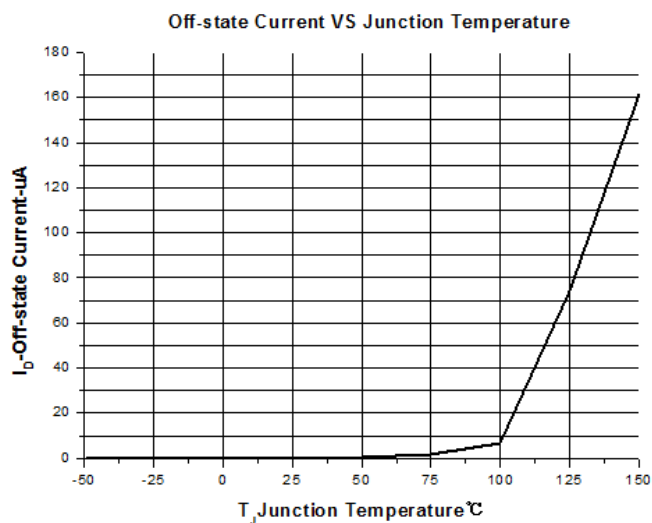
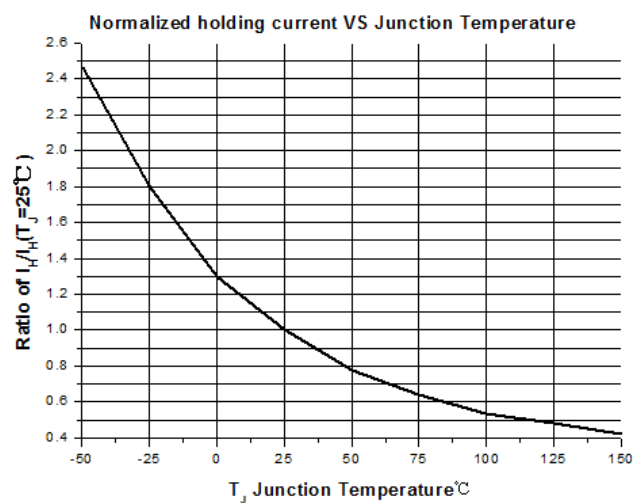
Thermal Considerations

Symbol	Parameter	Value	Unit
T_J	Operating Junction Temperature Range	-40 to +125	$^{\circ}C$
T_S	Storage Temperature Range	-40 to +125	$^{\circ}C$

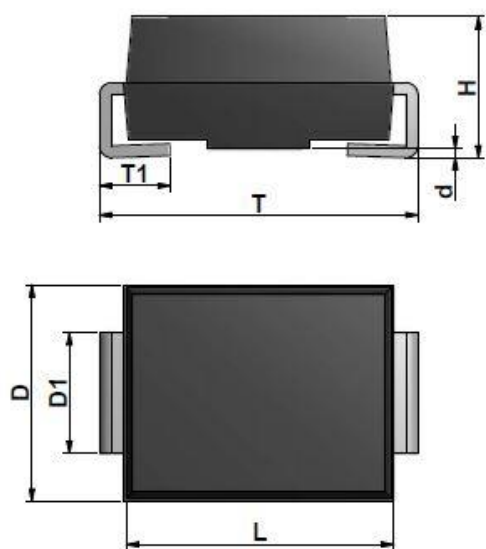
Product Characteristics

Lead Material	Copper Alloy
Body Material	UL recognized epoxy meeting flammability classification 94V-0
Terminal Finish	100% Matte-Tin Plated

Typical Characteristics

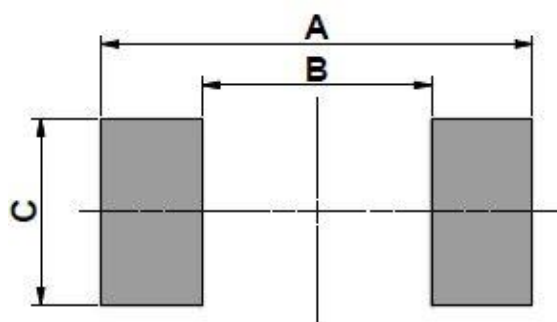


Product Dimensions



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

Recommended Soldering Pad



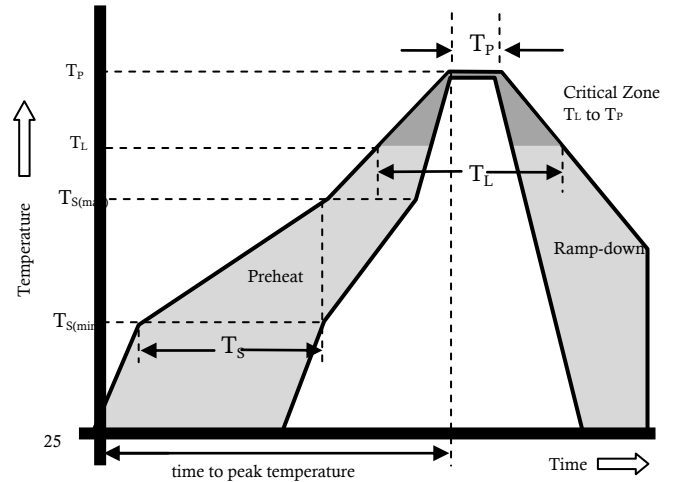
REF	mm	inch
A	5.45	0.215
B	2.45	0.096
C	2.15	0.085

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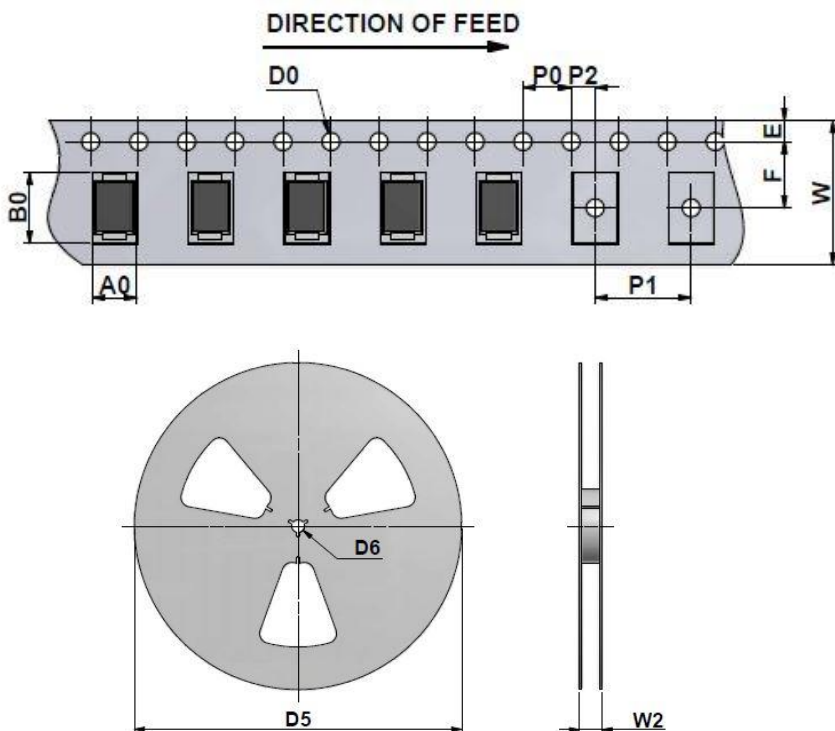
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Reflow Profile

Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time (Min to Max)	60 – 180 seconds
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
	- Temperature (T_L)	60 – 150 seconds
Peak Temp (T_P)		260±0/-5 °C
Time within 5°C of actual Peak Temp (T_P)		8-15 seconds
Ramp-down Rate		6°C/s max
Time 25°C to peak Temp (T_P)		8 min max.
Do not exceed		260°C



PackageReel 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
D1	1.5±0.2	0.059±0.008
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