BS0060N-2C

Order Code: BS0060N-2C

Thyristor Surge Suppresser

Version: A0 2014-01-03

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
- Weight:88mg
- Non degenerative

Exterior



SMB-T

Application information

- Video

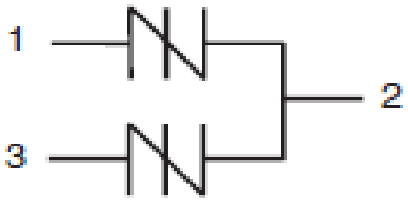
Package (Top View)



Agency Approvals

Icon	Description
RoHS	Compliance with 2011/65/EU
HF	Compliance withIEC61249-2-21:2003

Schematic Symbol



Part Number and Electrical Parameter

Part Number	I_{DRM}@V_{DRM}		V_S①@ I_S		V_T@ I_T		I_H	C_O②
	μA	V	V	mA	V	A	mA	pF
	MAX	Pin1,3-2	Pin1,3-2		MAX		MIN	MAX
BS0060N-2C	5	6	25	800	4	2.2	15	120

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

①Vs is measured at 100KV/S

② Off-state Capacitance is measured at V_{DC}=2V,V_{RMS}=1V,f=1MHz

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications

Thyristor Surge Suppresser

Part Numbering System

BS	0060	N	2	C
(1)	(2)	(3)	(4)	(5)

(1)Bencent Semiconductor Surge Arrester
(2)Off state voltage,e.g:0060=6×10^0=6V.
(3) Package : SMB-T
(4) 2 Lines Protection
(5) Rating Surge Voltage: 6KV(10/700μS)

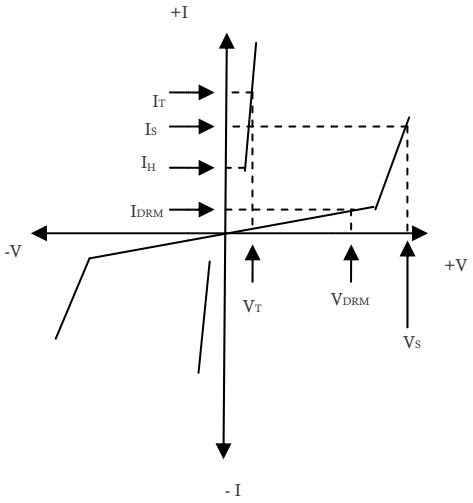
Mark



B006N2C: Part Number
1309 : September, 2013

V-I Curve

Parameters	Definition
V_{DRM}	Peak Off-stateVoltage
I_{DRM}	Off-stateCurrent
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	2/10μs	8/20μs	10/160μs	5/320μs*	10/1000μs
Voltage Waveform	2/10μs	1.2/50μs	10/160μs	10/700μs*	10/1000μs
Ipp	500A	400A	200A	150A	100A

-Peak pulse current rating (I_{PP}) is repetitive and guaranteed for the life of the product;
-Bencent only makes the test for 5/320μs@150A* (10/700μs@6KV), but for other IPP valuederived from experience is just for reference only. Bencent will not take any obligation for these parameters, so before applyingour parts, please make sure to verify the parameters listed in the above table.

Thermal Considerations

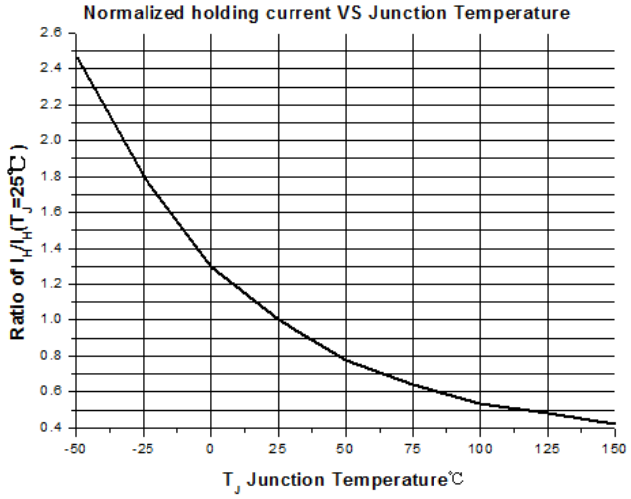
Symbol	Parameter	Value	Unit
T_J	Operating Junction Temperature Range	-40 to +150	℃
T_S	Storage Temperature Range	-60 to +150	℃

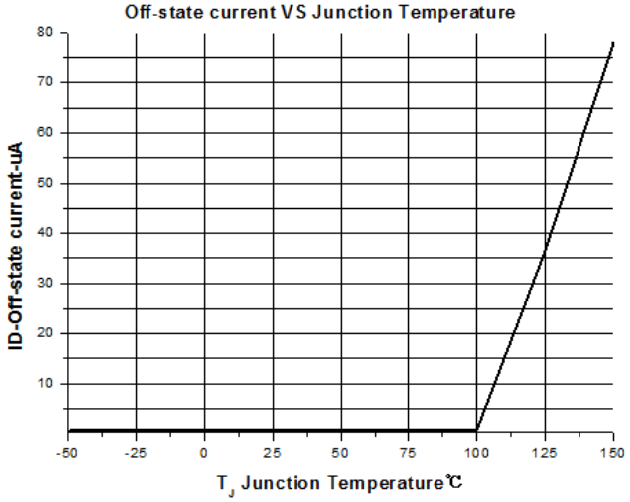
Product Characteristics

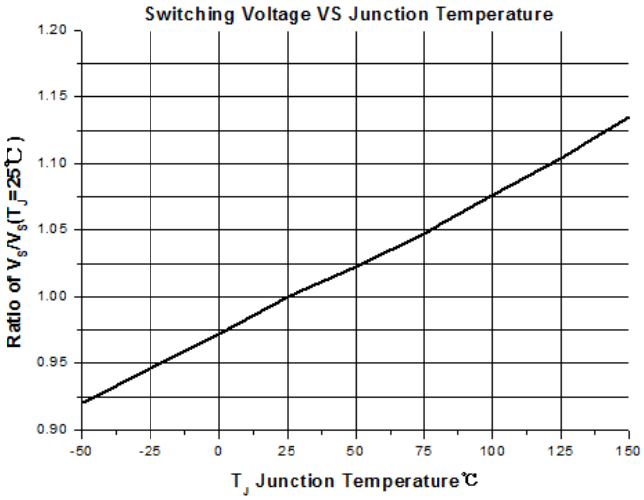
Lead Material	Copper Alloy
Body Material	UL recognized epoxy meeting flammability classification 94V-0
Terminal Finish	100% Matte-Tin Plated

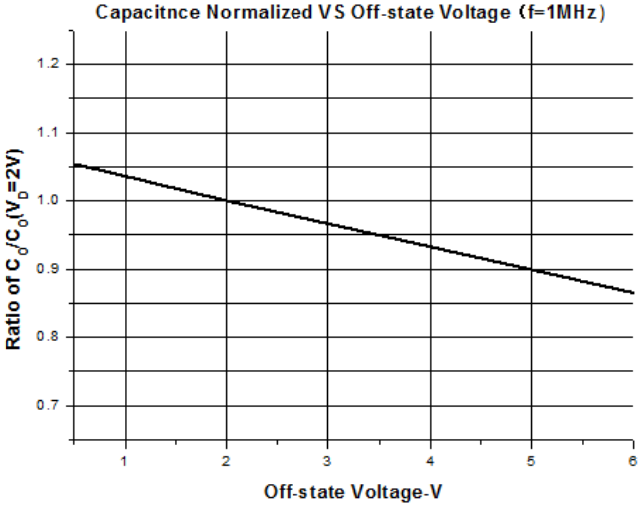
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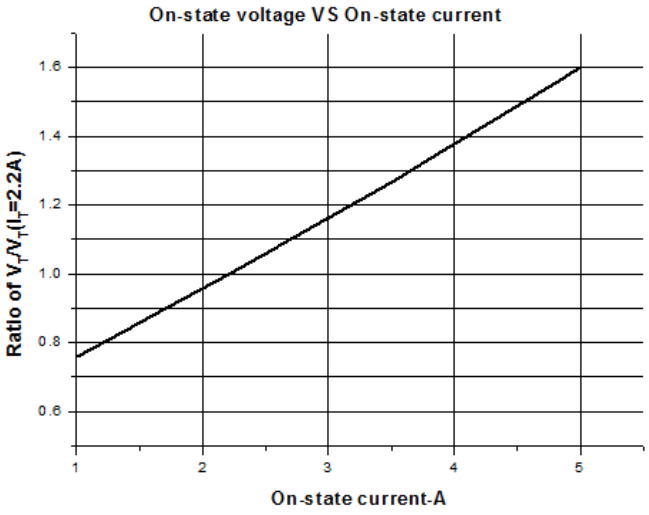
Typical Characteristics











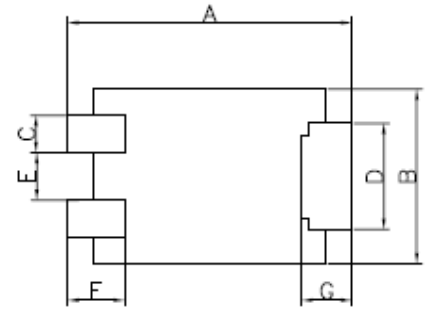
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Environmental Characteristics

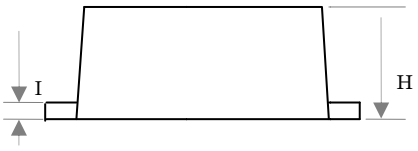
Testing Items	Technical Standards
High Temperature Reverse Bias Test	Temperature: 150±3℃, Bias=80%V_{DRM} Time:168H
High Temperature Life Test	Temperature: 150℃ Time:168H
High-low Temperature Cycle Test	Temperature:From -40℃ to125℃ Dwell time: 30min, 10-100 cycles
High Temperature &High Humidity Test	Temperature: 85℃Humidity:85% Test time:168H
Pressure Cooker Test	Temperature: 121℃, 2atm. Humidity:100% Test time: 24H to 168H
Resistance of Soldering Heat	Temperature: 260±5℃ Time of dip soldering: 10s, 3times

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

Product Dimensions



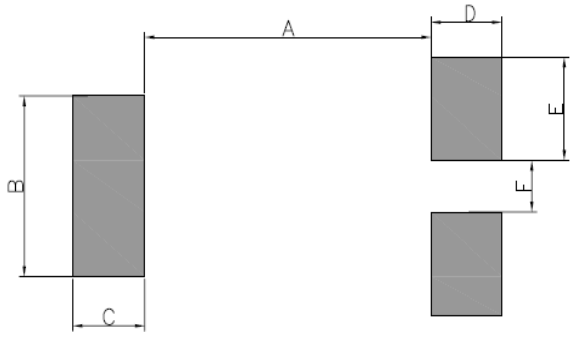
Bottom view



Side view

REF	mm	inch
A	5.4±0.3	0.213±0.012
B	3.3±0.3	0.130±0.012
C	0.7±0.03	0.028±0.001
D	2.0±0.2	0.079±0.008
E	0.9±0.2	0.035±0.008
F	1.32±0.3	0.052±0.012
G	1.13±0.3	0.045±0.012
H	2±0.3	0.079±0.012
I	0.25±0.05	0.010±0.002

Recommended Soldering Pad

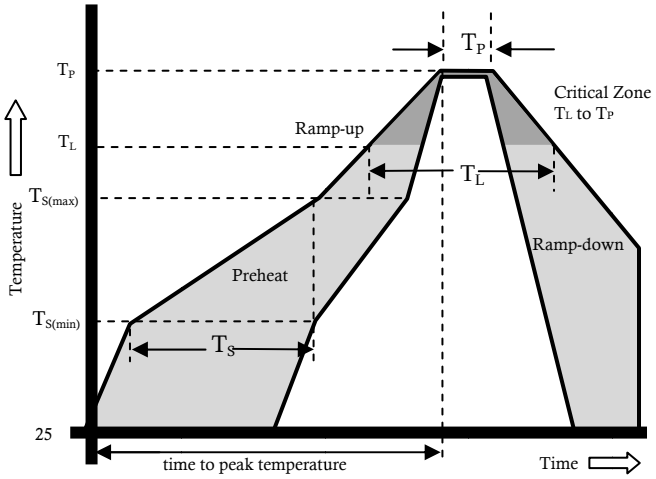


REF	mm	inch
A	3.4	0.134
B	2.5	0.098
C	1.6	0.059
D	1.8	0.059
E	0.9	0.035
F	0.8	0.032

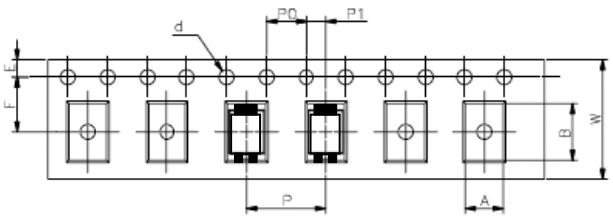
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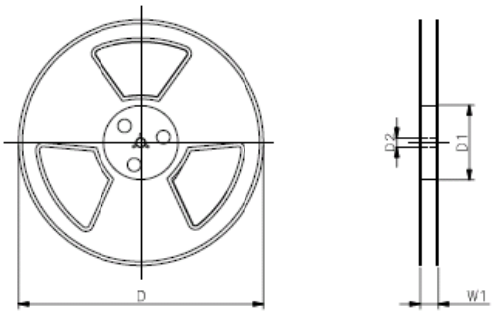
Reflow Profile

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(LiquidusTemp(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)		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	3.65+/-0.3	0.144+/-0.012
B	5.69+/-0.3	0.244+/0-.012
d	1.5+/-0.1	0.059+/-0.004
D	330.0	13.0
D1	100+/-3	3.937+/-0.118
D2	13+/-0.3	0.512+/-0.012
E	1.5+/-0.2	0.059+/-0.008
F	5.65+/-0.2	0.222+/-0.008
P	8.0+/-0.2	0.315+/-0.008
P0	4.0+/-0.2	0.157+/-0.008
P1	2.0+/-0.2	0.079+/-0.008
W	12.0+/-0.2	0.472+/-0.008
W1	16.8+/-2.0	0.661+/-0.079

Outline	Reel (pcs)	Per Carton (pcs)	Reel Diameters (mm)	Carton Size(mm)		
				L	W	H
Taping	3,000	24,000	330	360	360	380

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