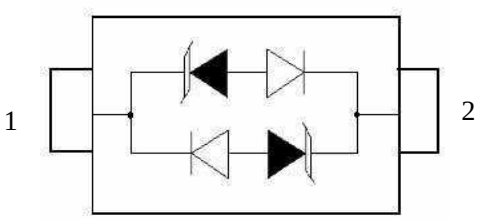
Transient Voltage Suppressor

Version: A1 2016-06-23

Features

- IEC 61000-4-2(ESD)±25KV(air), ±25KV(contact)
- 150Watts peak pulse power (tp=8/20μS)
- Ultra low capacitance: 1.5pF maximum
- Low clamping voltage
- Moisture sensitivity level：Level 1
- Weight 5.0 mg
- Small package: SOD323

Exterior



SOD323

Application information

- xDSL

Agency Approvals

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

Part Number and Electrical Parameter

Part Number	I_{DRM}@V_{DRM}		V_{BR}①@I_R		Vc@Ipp ②		Vc@Ipp ②		C_O③
	μA	V	V	mA	V	A	V	A	pF
	MAX		MIN		MAX		MAX		MAX
BV12C	1	12	13.3	1	19	1	28.6	6	1.5

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

① V_{BR} is measured at I_R=1mA

② Surge Waveform: 8/20μS.

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

Part Numbering System

BV	12	C
(1)	(2)	(3)

(1) Bencent Transient Voltage Suppressor

(2) Series: 12 etc.

(3)Bidirectional TVS

Mark



DC: Part Number

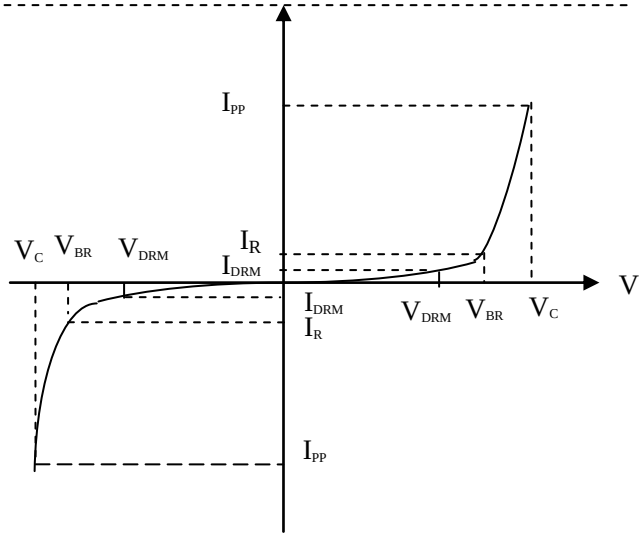
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications

Transient Voltage Suppressor

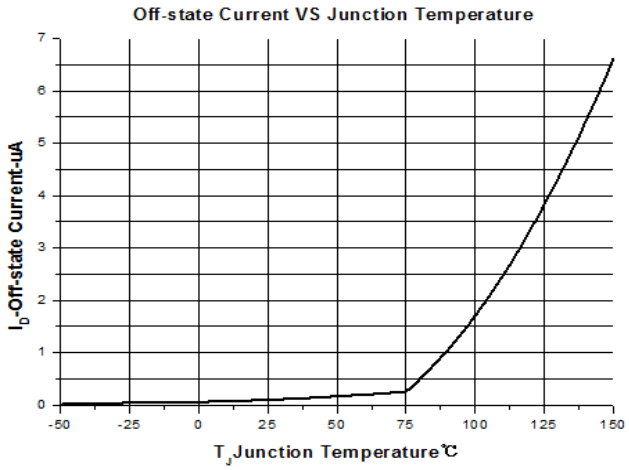
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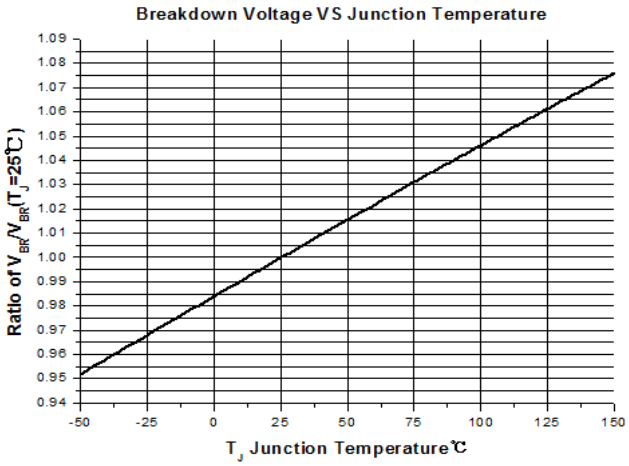
V-I Curve

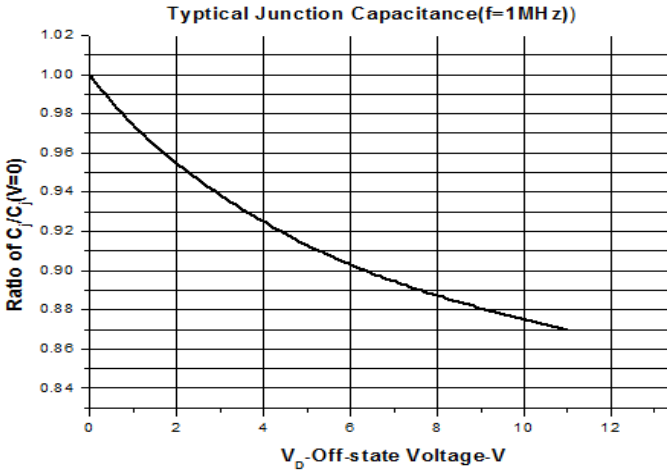
Parameters	Definition
V_C	Clamping voltage
I_{pp}	Surge waveform 8/20μs
V_{DRM}	Stand-off Voltage
V_{BR}	Breakdown Voltage
I_{DRM}	Reverse Leakage Current
I_R	Test current
P_{PP}	Peak Pulse Power Dissipation



Typical Characteristics







Thermal Considerations

symbol	Parameter	Value	Unit
T_J	Operating Junction Temperature Range	-55 to +150	℃
T_S	Storage Temperature Range	-55 to +150	℃

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Transient Voltage Suppressor

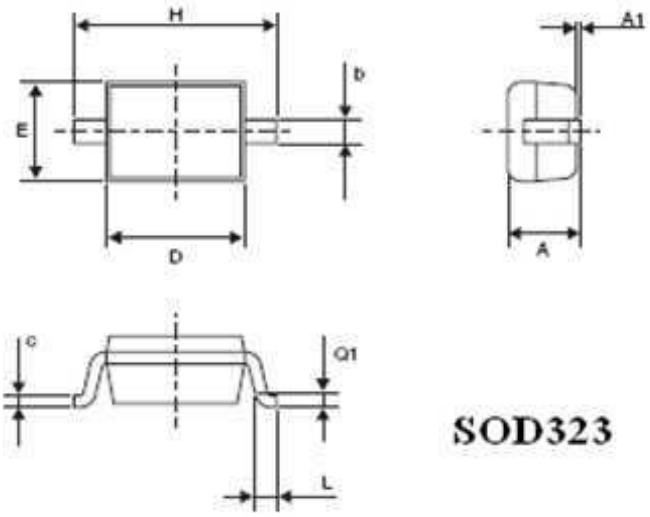
Version: A1 2016-06-23

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,10cycles
High Temperature &High Humidity Test	Temperature: 85℃Humidity:85% Time:168H
Pressure cooker Test	Temperature: 121℃，2atm. Humidity:100% Time:24H
Resistance of soldering heat	Temperature: 260±5℃ Time of dip soldering：10s，3times

Note: The above testing items can be specified by customer's special request

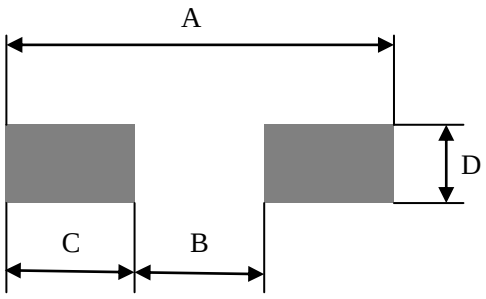
Product Dimensions



SOD323

REF	mm	inch
A	1.17	0.046
A1	0.1	0.004
b	0.34±0.10	0.013±0.0039
c	0.17±0.08	0.007±0.0032
D	1.66±0.14	0.065±0.0055
E	1.28±0.17	0.050±0.0066
H	2.5±0.2	0.098±0.0079
L	0.28±0.18	0.011±0.0071
Q1	0.25±0.15	0.010±0.0059

Recommended Soldering Pad



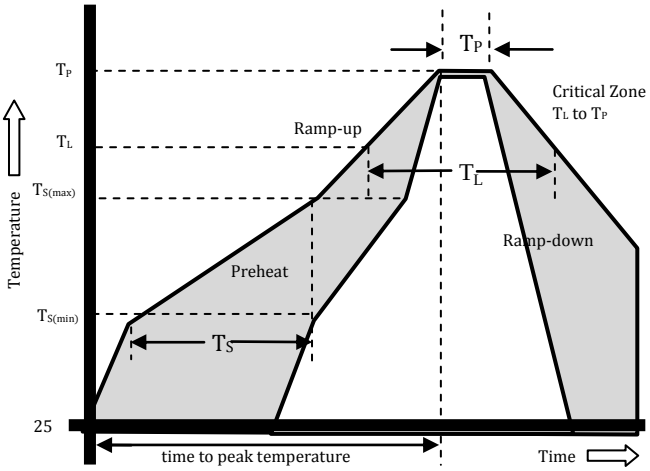
REF	mm	inch
A	3.20	0.126
B	1.08	0.043
C	1.06	0.042
D	0.54	0.021

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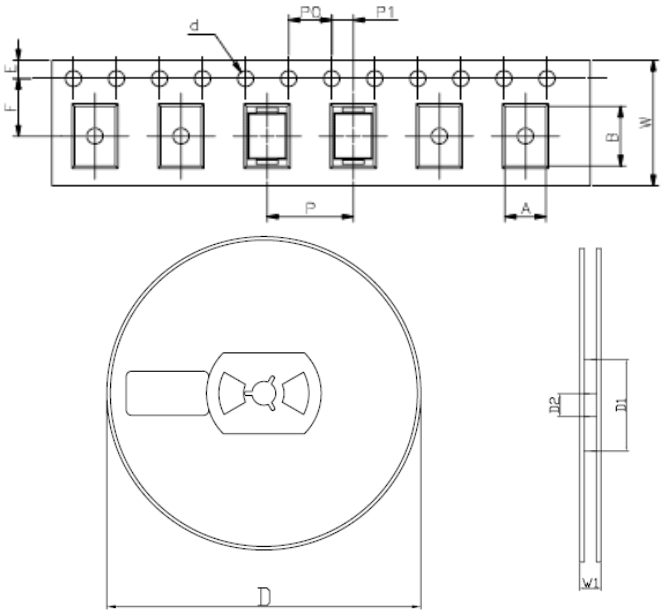
Transient Voltage Suppressor

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（Liquid） Tamp（T_L） to peal		3°C/s max
T_S(max) to T_L - Ramp-up Rate		3°C/s max
Reflow	- Temperature (T_L) (Liquid)	217°C
	- Temperature (T_L)	60 – 150 secs
Peak Temperature (T_P)		260+0/-5 °C
Time within 5°C of actual peak Temperature (T_P)		30 secs
Ramp-down Rate		6°C/s max
Time 25°C to peak Temperature (T_P)		8 mins max.
Do not exceed		260°C



Package Reel Information



REF	mm	inch
A	1.46+/-0.1	0.057+/-0.004
B	2.9+/-0.1	0.114+/-0.004
d	1.25+/-0.1	0.049+/-0.004
D	178+/-1.0	7.01+/-0.039
D1	55+/-3	2.165+/-0.118
D2	13+/-0.5	0.512+/-0.020
E	1.75+/-0.1	0.069+/-0.004
F	3.5+/-0.2	0.138+/-0.008
P	4.0+/-0.2	0.158+/-0.008
P0	4.0+/-0.2	0.158+/-0.008
P1	2.0+/-0.2	0.079+/-0.008
W	8.0+/-0.2	0.315+/-0.008
W1	14.4+/-0.5	0.567+/-0.020

OUTLINE	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)	CARTON SIZE(mm)		
				L	W	H
TAPING	3,000	90,000	177	360	370	220

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