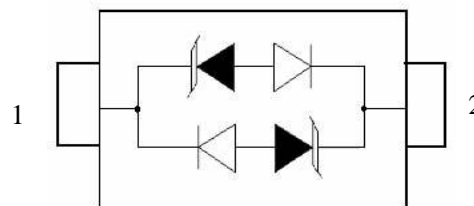


Transient Voltage Suppressor

Version: A1 2016-06-23

Features

- IEC 61000-4-2(ESD) $\pm 25\text{KV}$ (air), $\pm 25\text{KV}$ (contact)
- 150Watts peak pulse power ($t_p=8/20\mu\text{s}$)
- Ultra low capacitance: 1.5pF maximum
- Low clamping voltage
- Moisture sensitivity level: Level 1
- Weight 5.0mg
- 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
	Mean lead free

Part Number and Electrical Parameter

Part Number	$I_{\text{DRM}}@V_{\text{DRM}}$		$V_{\text{BR}}^{\text{①}}@I_{\text{R}}$		$V_{\text{c}}@I_{\text{pp}}^{\text{②}}$		$V_{\text{c}}@I_{\text{pp}}^{\text{②}}$		$C_{\text{o}}^{\text{③}}$
	μA	V	V	mA	V	A	V	A	pF
	MAX		MIN		MAX		MAX		MAX
BV05C	5	5	6	1	9.8	1	18.3	8	1.5

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

 ① V_{BR} is measured at $I_{\text{R}}=1\text{mA}$

② Surge Waveform: 8/20us.

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

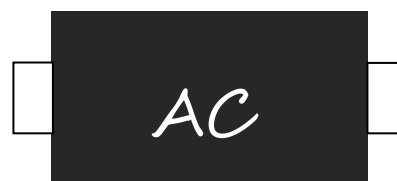
Part Numbering System

BV	05	C
(1)	(2)	(3)

(1) Bencent Transient Voltage Suppressor

(2) Series: 05 etc.

(3) Bidirectional TVS

Mark


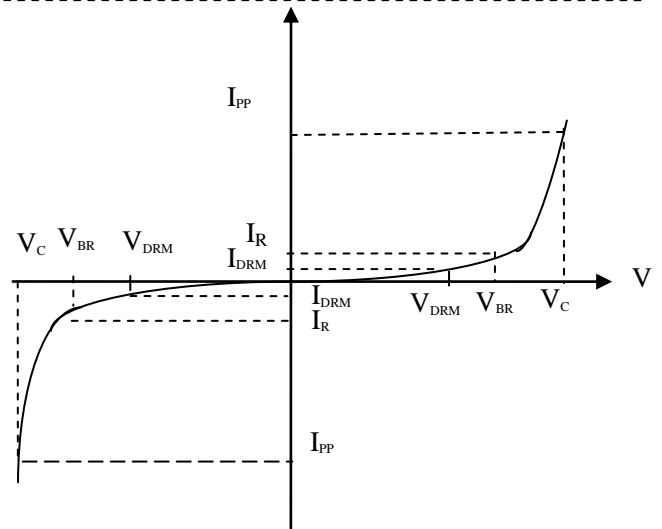
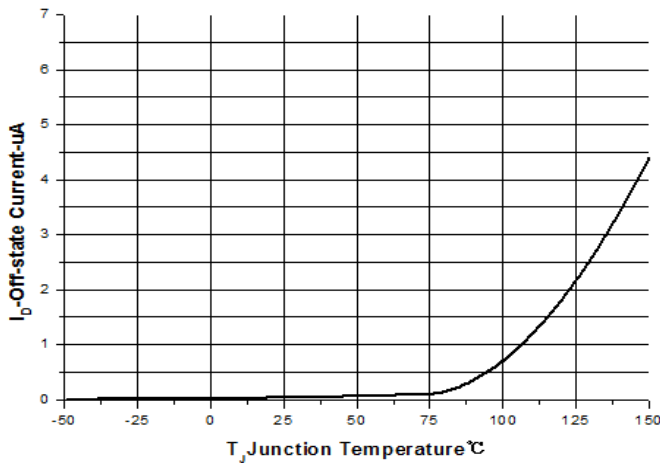
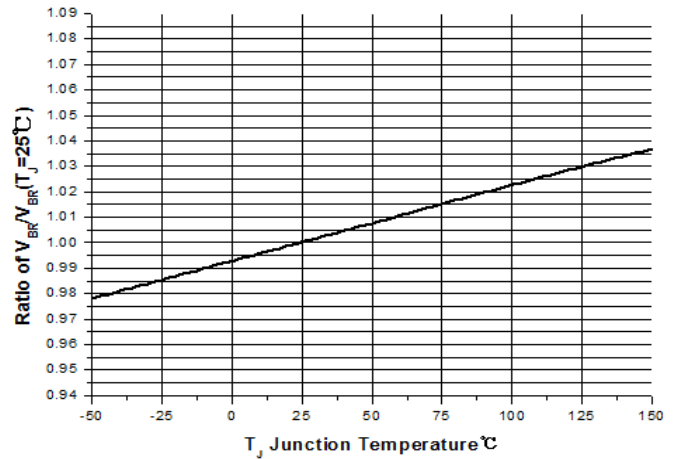
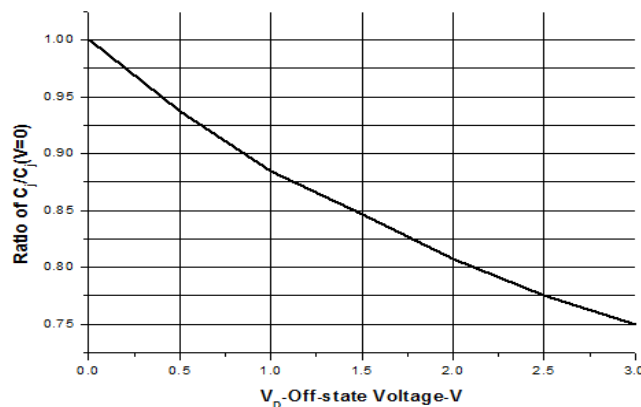
AC: Part Number

Transient Voltage Suppressor

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V-I Curve

Parameters	Definition
V_C	Clamping voltage
I_{PP}	Surge waveform 8/20us
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
Off-state Current VS Junction Temperature

Breakdown Voltage VS Junction Temperature

Typical Junction Capacitance(f=1MHz)

Thermal Considerations

symbol	Parameter	Value	Unit
T_j	Operating Junction Temperature Range	-55 to +150	°C
T_s	Storage Temperature Range	-55 to +150	°C

Transient Voltage Suppressor

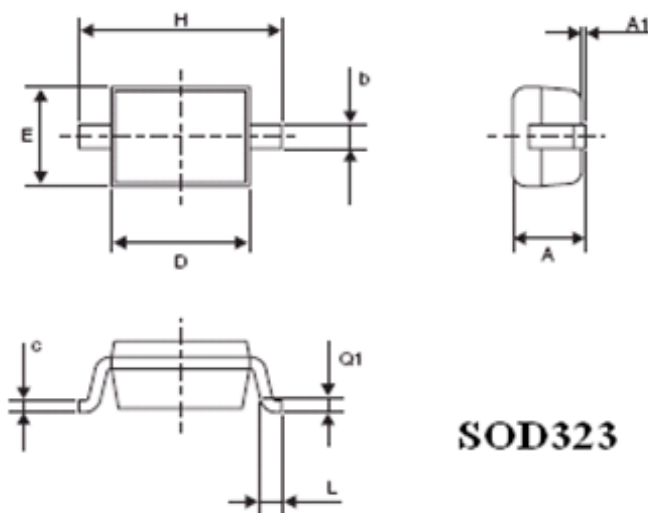
Version: A1 2016-06-23

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,10cycles
High Temperature & High Humidity Test	Temperature: 85°C Humidity:85% Time:168H
Pressure cooker Test	Temperature: 121°C , 2atm. Humidity:100% Time:24H
Resistance of soldering heat	Temperature: $260 \pm 5^\circ\text{C}$ Time of dip soldering: 10s, 3times

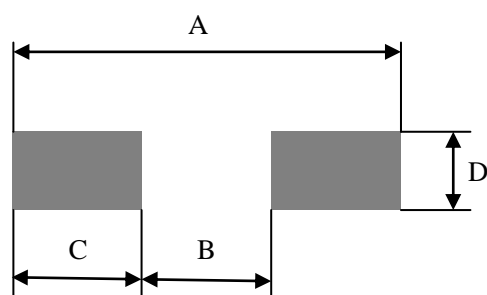
Note: The above testing items can be specified by customer's special request

Product Dimensions



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



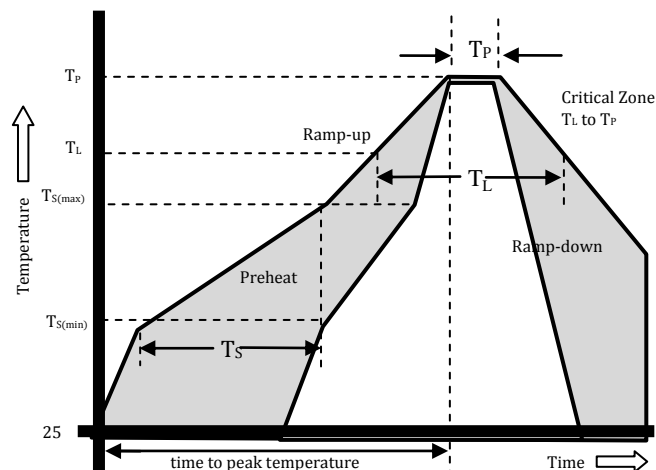
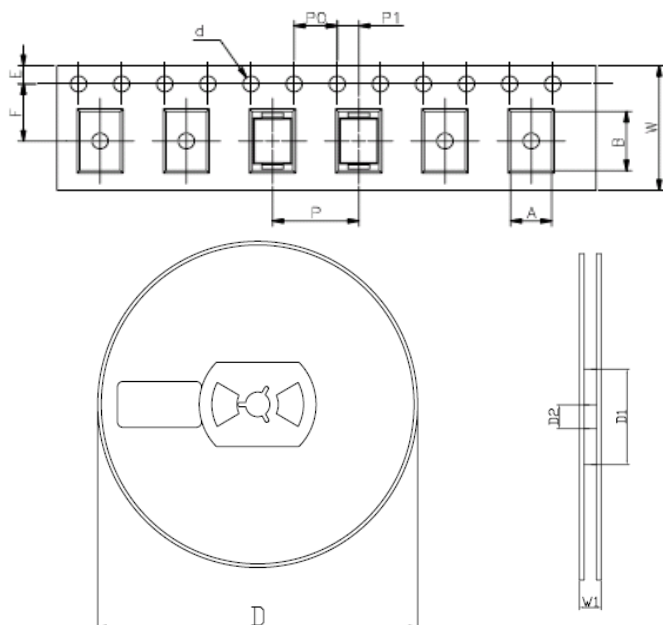
REF	mm	inch
A	3.20	0.126
B	1.08	0.043
C	1.06	0.042
D	0.54	0.021

Transient Voltage Suppressor

Version: A1 2016-06-23

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) T _{amp} (T _L) to peak		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

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