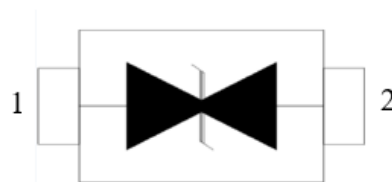


**Transient Voltage Suppressor& ESD protection diode**

Version: A1 2021-06-24

**Features**

- IEC 61000-4-2(ESD)  $\pm 28\text{KV}$ (air),  $\pm 25\text{KV}$ (contact)
- 200Watts peak pulse power ( $t_p=8/20\mu\text{s}$ )
- IEC61000-4-5(Lightning)  $I_{ppMax}=7\text{A}@8/20\mu\text{s}$
- Ultra low capacitance: 0.8pF typical
- Low clamping voltage
- Moisture sensitivity level: Level 1
- Weight 5.0mg
- Small package: SOD323


**Exterior**


SOD323

**Application Information**

- Ethernet secondary side

**Agency Approvals**

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

**Part Number and Electrical Parameter**

Part Number	$I_{DRM}@V_{DRM}$		$V_{BR}^{①}@I_R$		$V_c@I_{pp}^{②}$		$V_c@I_{pp}^{②}$		$C_o^{③}$
	$\mu\text{A}$	V	V	mA	V	A	V	A	pF
	MAX		MIN		TYP		TYP		TYP
BV03C-F	1	3.3	3.8	1	8	1	12	7	0.8

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

- ①  $V_{BR}$  is measured at  $I_R=1\text{mA}$
- ② Surge Waveform: 8/20us.
- ③ Off-state capacitance is measured in  $V_{DC}=0\text{V}, V_{RMS}=0.3\text{V}, f=1\text{MHz}$ .

Transient Voltage Suppressor & ESD protection diode

Part Numbering System

Mark

BV      03      C      F  
 (1)      (2)      (3)      (4)

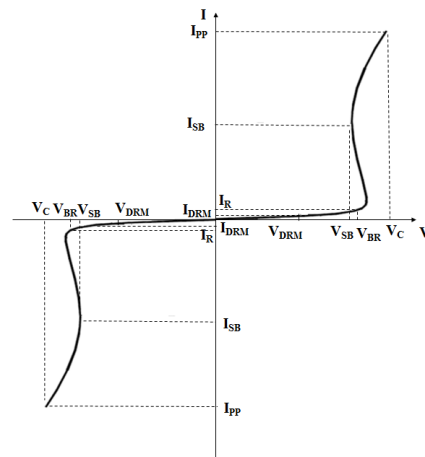
- (1) Bencent Transient Voltage Suppressor & ESD protection diode
- (2) Stand-state Voltage : 3.3V
- (3) Bidirectional TVS
- (4) Bencent internal code



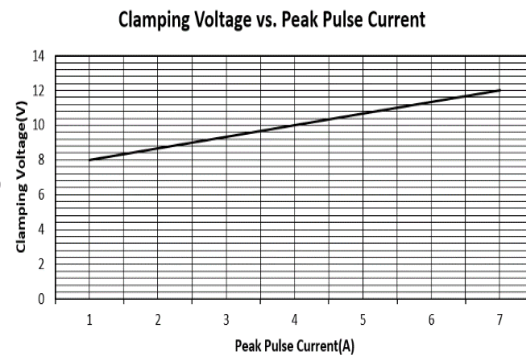
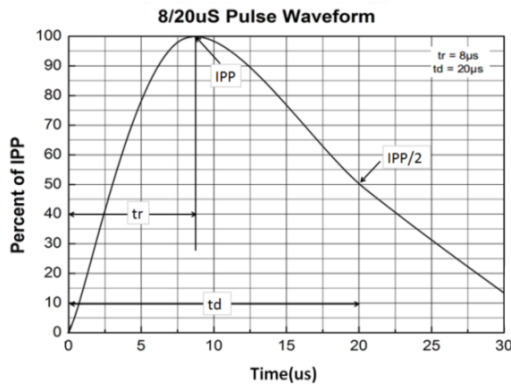
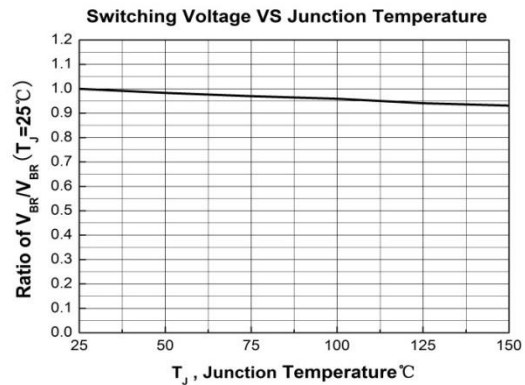
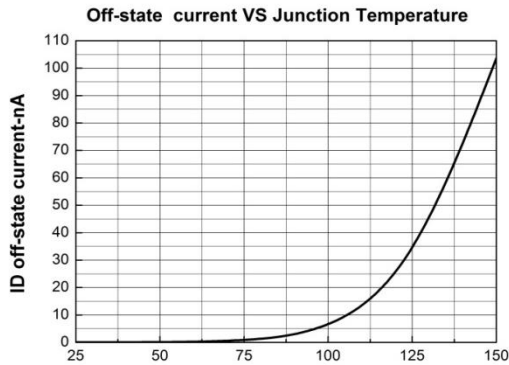
5TD: Part Number

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



**Transient Voltage Suppressor & ESD protection diode**

## Thermal Considerations

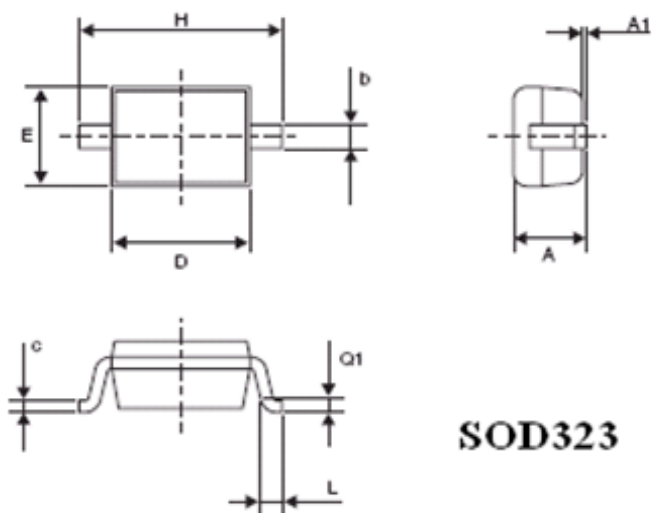
symbol	Parameter	Value	Unit
$T_j$	Operating Junction Temperature Range	-55 to +150	°C
$T_s$	Storage Temperature Range	-55 to +150	°C

## 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: $150^\circ\text{C}$ Time: 168H
High-low Temperature Cycle test	Temperature: From $-55^\circ\text{C}$ to $150^\circ\text{C}$ Dwell time : 30min, 10~100cycles
High Temperature & High Humidity Test	Temperature: $85^\circ\text{C}$ Humidity: 85% Time: 168H
Pressure cooker Test	Temperature: $121^\circ\text{C}$ , 2atm. Humidity: 100% Time: 24H
Resistance of soldering heat	Temperature: $260 \pm 5^\circ\text{C}$ Time of dip soldering: 10s, 3times

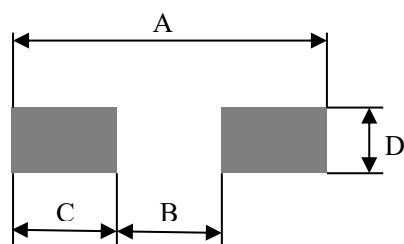
Note: The above testing items can be specified by customer's special request

## Product Dimensions



REF	mm	inch
A	1.17(max)	0.046(max)
A1	0.10(max)	0.004(max)
b	$0.34 \pm 0.10$	$0.013 \pm 0.0039$
c	$0.17 \pm 0.08$	$0.007 \pm 0.0032$
D	$1.66 \pm 0.14$	$0.065 \pm 0.0055$
E	$1.28 \pm 0.17$	$0.050 \pm 0.0067$
H	$2.5 \pm 0.2$	$0.098 \pm 0.0079$
L	$0.28 \pm 0.18$	$0.011 \pm 0.0071$
Q1	$0.25 \pm 0.15$	$0.010 \pm 0.0059$

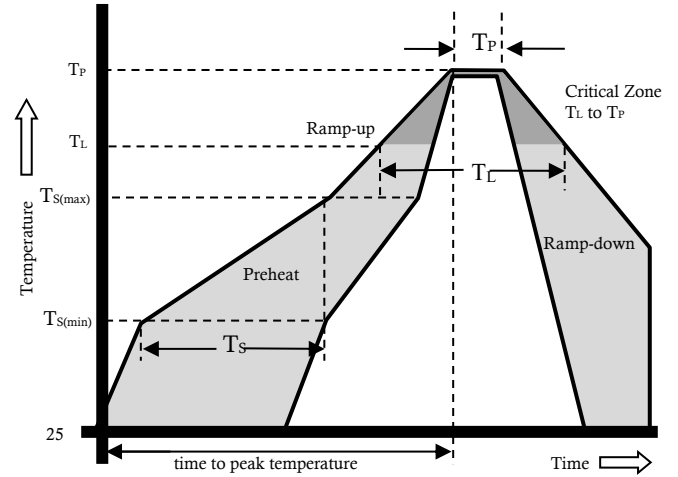
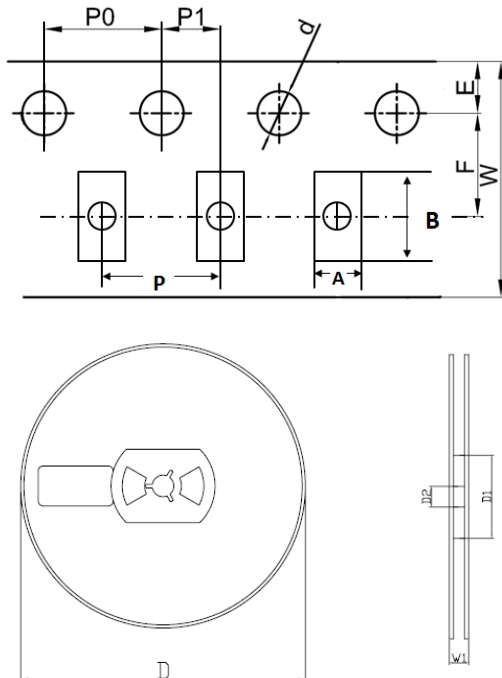
## Recommended Soldering Pad



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 & ESD protection diode**
**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 ( $T_P$ )		25 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	1.46+/-0.1	0.057+/-0.004
B	3.10+/-0.3	0.122+/-0.012
d	1.50+/-0.1	0.059+/-0.004
D	178+/-1.0	7.008+/-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	0.157+/-0.008
P0	4.0+/-0.2	0.157+/-0.008
P1	2.0+/-0.2	0.079+/-0.008
W	8.0+/-0.2	0.315+/-0.008
W1	12.3+/-1.0	0.484+/-0.039

Outline	Reel (pcs)	Per Carton (pcs)	Reel Diameters (mm)	Carton Size(mm)		
				L	W	H
Taping	3,000	90,000	178	390	370	220

单击下面可查看定价，库存，交付和生命周期等信息

[>>Bencent \(槟城\)](#)