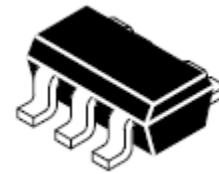


## Transient Voltage Suppressor

### Features

- Small SOT23-6L packaging
- IEC 61000-4-2(ESD) $\pm$ 30KV(air),  $\pm$ 30KV(contact)
- IEC61000-4-5(Lightning) 12A (8/20 $\mu$ S)
- 200 Watts peak pulse power (tp=8/20 $\mu$ s)
- Low leakage current 1 $\mu$ A (Max) at 5V
- Moisture sensitivity level: Level 1

### Exterior



SOT23-6L

### Application Information

- USB 2.0
- Video Graphics Cards
- DVI
- IEEE 1394
- Monitors and Flat Panel Displays
- Notebooks
- 10/100/1000M Ethernet

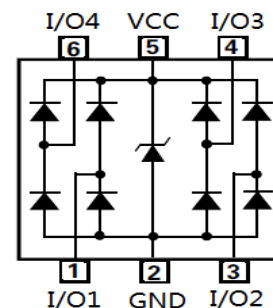
### Package (top view)



### Agency Approvals

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

### Schematic Symbol



### Part Number and Electrical Parameter

Part Number	$I_{DRM}@V_{DRM}$		$V_{BR}@I_R$		$V_C@I_{pp}^{\textcircled{1}}$		$C_o^{\textcircled{2}}$	$C_o^{\textcircled{3}}$
	$\mu$ A	V	V	mA	V	A	pF	pF
	MAX		MIN		TYP		MAX	MAX
BV-SRV05-4A	1.0	5.0	6.0	1.0	17.0	12.0	3.0	1.5

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

- ① Surge Waveform: 8/20 $\mu$ S. Pin 1,3,4,6 to Pin 2.
- ② Off-state capacitance is measured in  $V_{DC}=0V$ ,  $f=1MHz$ . Pin 1,3,4,6 to Pin 2.
- ③ Off-state capacitance is measured in  $V_{DC}=0V$ ,  $f=1MHz$ , any I/O to I/O.

## Transient Voltage Suppressor

Part Numbering System

Mark

BV SRV05-4A

(1) (2)

(1) Bencent Transient Voltage Suppressor

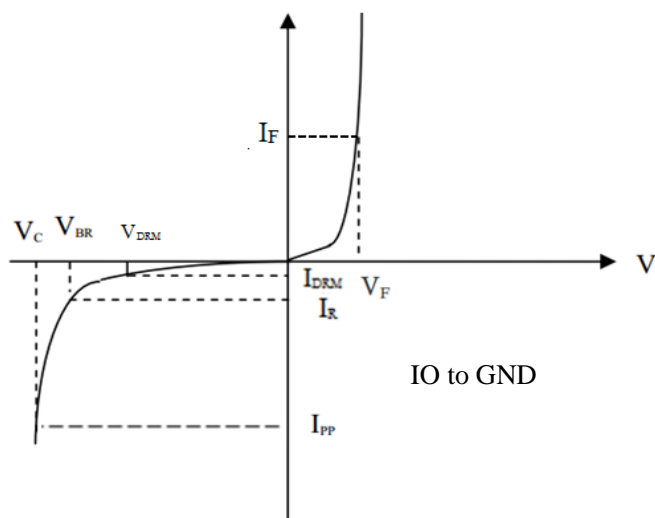
(2) Series: SRV05-4A etc.



V05A: Part Number

### V-I Curve

Parameters	Definition
$V_C$	Clamping Voltage
$I_{PP}$	Surge Waveform 8/20 $\mu$ s
$V_{DRM}$	Stand-off Voltage
$V_{BR}$	Breakdown Voltage
$V_F$	Forward Voltage
$I_{DRM}$	Reverse Leakage Current
$I_R$	Test Current
$I_F$	Test Current
$P_{pp}$	Peak Pulse Power Dissipation



### Thermal Considerations

symbol	Parameter	Value	Unit
$T_J$	Operating Junction Temperature Range	-55 to +150	$^{\circ}$ C
$T_S$	Storage Temperature Range	-55 to +150	$^{\circ}$ C

### Environmental Characteristics

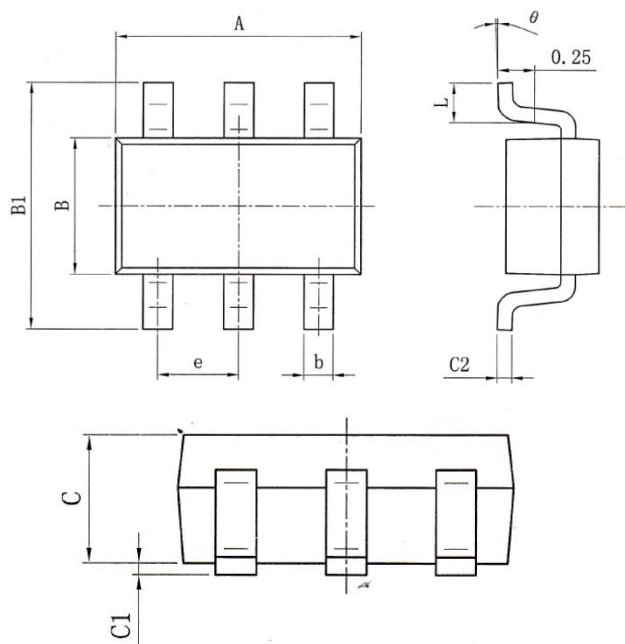
Testing items	Technical standards
High Temperature Reverse Bias Test	Temperature: $150 \pm 5^{\circ}$ C Bias=80% $V_{DRM}$ . Time:168H
High Temperature Storage Test	Temperature: $150^{\circ}$ C Time:168H
High-low Temperature Cycle test	Temperature: From $-55^{\circ}$ C to $125^{\circ}$ C Dwell time : 30min,100cycles
High Temperature &High Humidity Test	Temperature: $85^{\circ}$ C Humidity:85% Time:168H
Pressure cooker Test	Temperature: $121^{\circ}$ C , 2atm. Humidity:100% Time:24H
Resistance of soldering heat	Temperature: $260 \pm 5^{\circ}$ C Time of dip soldering: 10s, 3times

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

Transient Voltage Suppressor

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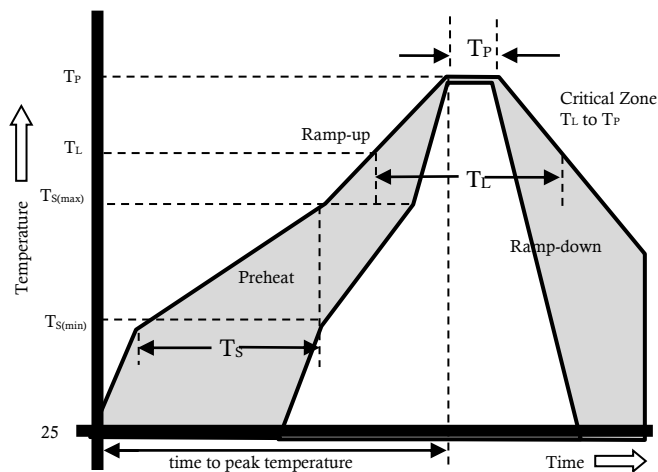
Product Dimensions



REF	mm	inch
A	2.826~3.026	0.111~0.119
B	1.526~1.726	0.060~0.068
B1	2.600~3.000	0.102~0.118
C	1.000~1.200	0.039~0.047
C1	0.000~0.150	0.000~0.006
C2	0.080~0.200	0.003~0.008
L	0.300~0.600	0.012~0.024
b	0.300~0.500	0.012~0.020
e	0.95BSC	0.037BSC
θ	0° ~8°	0° ~8°

Reflow Profile

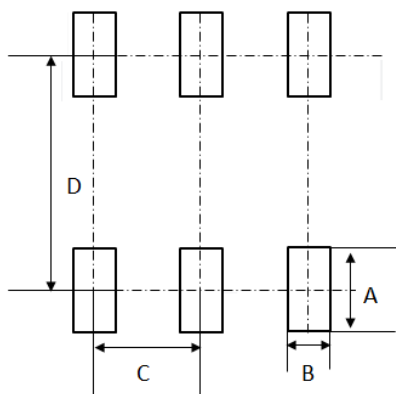
Reflow Condition		Pb-Free assembly
Pre Heat	Temperature Min	150°C
	Temperature Max	200°C
	Time (Min to Max)	60 – 180 secs
Average ramp up rate (Liquid) Tamp (T <sub>L</sub> ) to peak		3°C/s Max
T <sub>S(max)</sub> to T <sub>L</sub> - Ramp-up Rate		3°C/s Max
Reflow	- Temperature (T <sub>L</sub> ) (Liquid)	217°C
	- Temperature (T <sub>L</sub> )	60 – 150 secs
Peak Temperature (T <sub>P</sub> )		260±0/-5 °C
Time within 5°C of actual peak Temperature (T <sub>P</sub> )		30secs
Ramp-down Rate		6°C/s Max
Time 25°C to peak Temperature (T <sub>P</sub> )		8 mins Max.
Do not exceed		260°C



**Transient Voltage Suppressor**

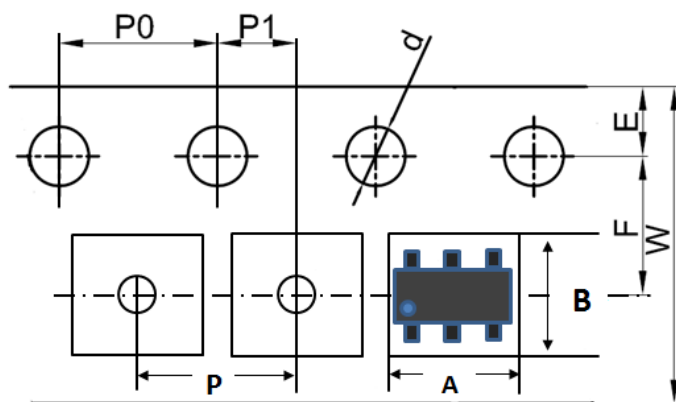
Version: A6 2021-10-13

Recommended Soldering Pad



REF	mm	inch
A	1.2	0.047
B	0.6	0.024
C	0.95	0.037
D	2.5	0.098

Package Reel Information



REF	mm	inch
A	3.20+/-0.20	0.126+/-0.008
B	3.20+/-0.20	0.126+/-0.008
d	1.50+0.1/-0	0.059+0.004/-0
D	178.00+/-2.00	7.008+/-0.079
D1	55.00+/-3.00	2.165+/-0.118
D2	13.00+/-0.50	0.512+/-0.020
E	1.75+/-0.10	0.069+/-0.004
F	3.50+/-0.20	0.138+/-0.008
P	4.00+/-0.20	0.157+/-0.008
P0	4.00+/-0.20	0.157+/-0.008
P1	2.00+/-0.20	0.079+/-0.008
W	8.00+/-0.20	0.315+/-0.008
W1	9.50+/-1.00	0.374+/-0.039

OUTLINE	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)	CARTON SIZE(mm)		
				L	W	H
TAPING	3000	90,000	178	390	370	220