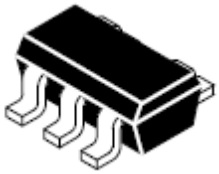
Transient Voltage Suppressor

Version: A5 2020-03-06

Features

- IEC 61000-4-2(ESD)±15KV(air), ±10KV(contact)
- IEC 61000-4-4 (EFT) 40A (5/50 ns, any IO to GND)
- IEC61000-4-5(Lightning MAX) 5A (8/20 μ S)
- 75Watts max peak pulse power (8/20us,any IO to GND)
- Low leakage current 0.5uA (Max) at 5V
- Rdyn: 0.57Ω ,Ipp=1A to 15A,tr/tp=10/100ns(any IO to GND)
- Moisture sensitivity level：Level 1
- Small package: SOT23-6

Exterior



SOT23-6

Application Information

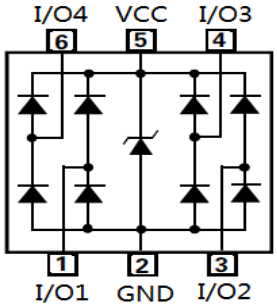
- USB 2.0
- Video Graphics Cards
- DVI
- IEEE 1394
- Monitors and Flat Panel Displays
- Notebooks
- 100/1000M Ethernet

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_{BR}@I_R		Vc@Ipp①		Co②	Co③
	μA	V	V	mA	V	A	pF	pF
	MAX		MIN		MAX		MAX	MAX
BV-SRV05-4	0.5	5.0	6.0	1	15	5	0.8	0.4

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

①Surge Waveform: 8/20μ S.Pin 1,3,4,6 to Pin 2.

②Off-state capacitance is measured in V_{DC}=0V, f=1MHz.Pin 1,3,4,6 to Pin 2.

③Off-state capacitance is measured in V_{DC}=0V ,f=1MHz,any I/O to I/O.

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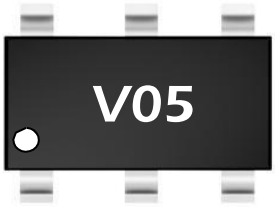
Part Numbering System

BV SRV05-4
(1) (2)

(1) Bencent Transient Voltage Suppressor
(2) Series: SRV05-4 etc.

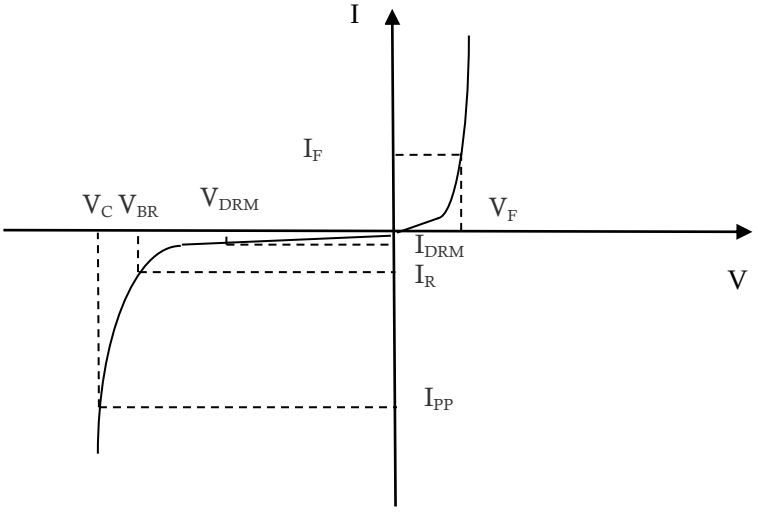
Mark



V05: Part Number

V-I Curve

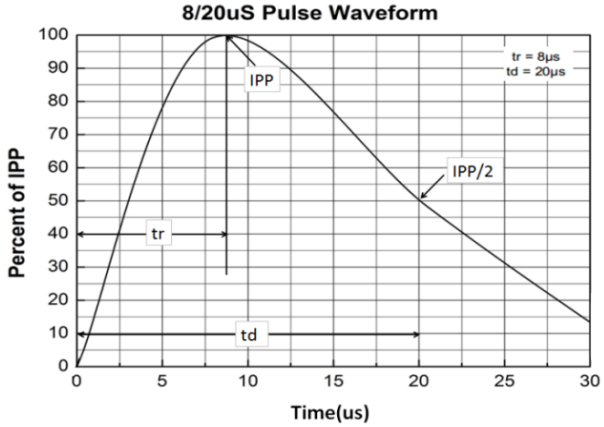
Parameters	Definition
V_C	Clamping Voltage
I_{pp}	Surge Waveform 8/20μ s
V_{DRM}	Stand-off Voltage
V_{BR}	Breakdown Voltage
I_{DRM}	Reverse Leakage Current
I_R	Test Current
Ppp	Peak Pulse Power Dissipation



Thermal Considerations

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

Typical Characteristics



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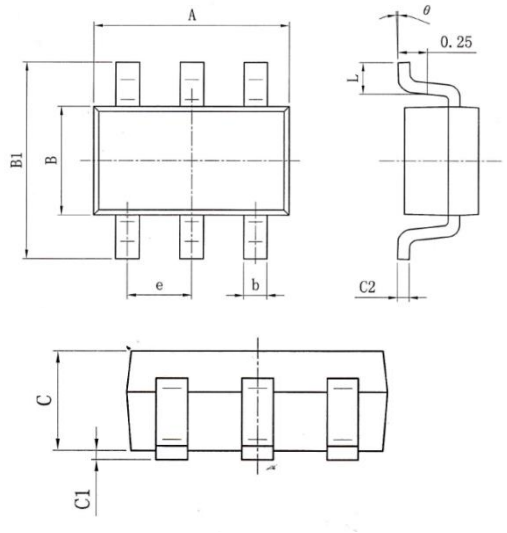
Environmental Characteristics

Testing items	Technical standards
High Temperature Reverse Bias Test	Temperature: 150±5℃ Bias=80%V_{DRM},Time:168H
High Temperature Storage Test	Temperature: 150℃, Time:168H
High-low Temperature Cycle test	Temperature: From -55℃ to125℃, Dwell time ： 30min,100cycles
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

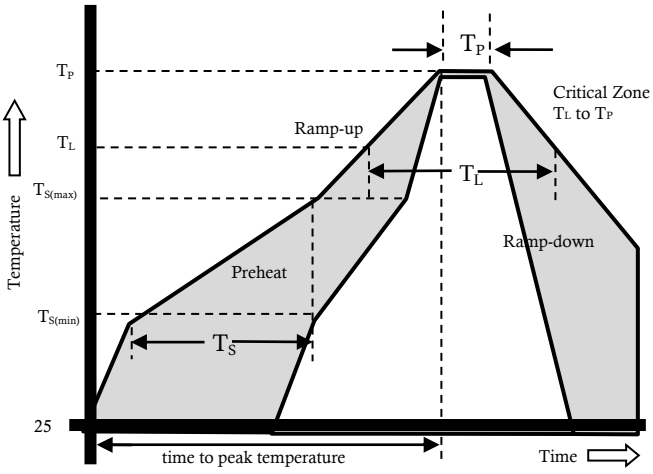
Product Dimensions



REF	mm	inch
A	2.80~3.00	0.110~0.118
B	1.50~1.70	0.059~0.067
B1	2.65~3.05	0.104~0.120
C	1.00~1.20	0.039~0.047
C1	0.00~0.10	0.000~0.004
C2	0.08~0.20	0.003~0.008
L	0.30~0.60	0.012~0.024
b	0.30~0.50	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_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)		30secs
Ramp-down Rate		6°C/s Max
Time 25°C to peak Temperature (T_P)		8 mins Max.
Do not exceed		260°C



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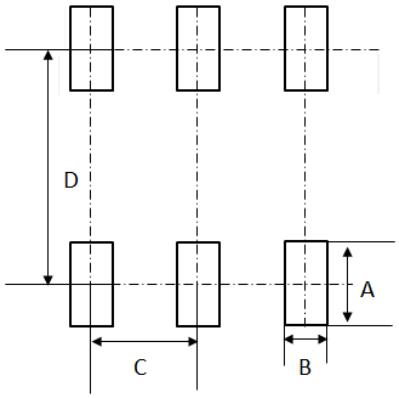
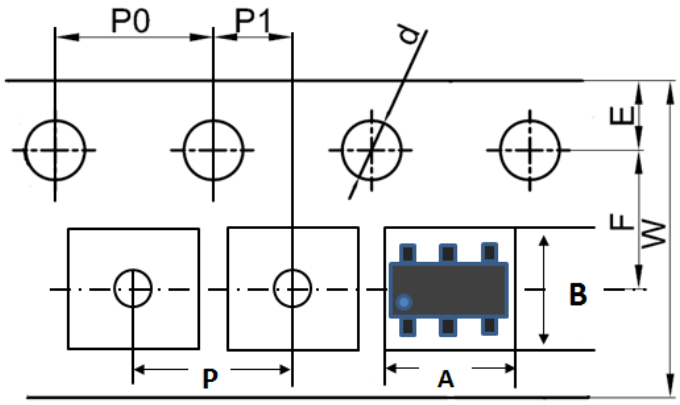
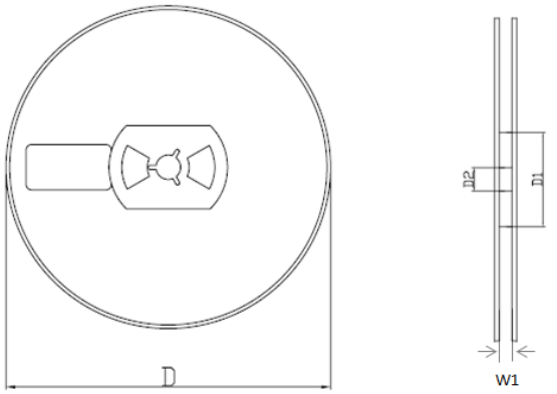
Recommended Soldering Pad



REF	mm	inch
A	1.2	0.047
B	0.6	0.024
C	0.95	0.037
D	2.3	0.091

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