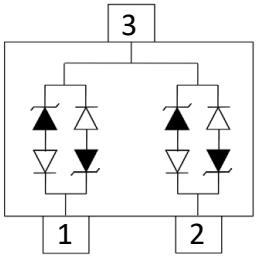
2-Line Bi-directional TVS Diode Array

Features

- Ultra low leakage: nA level
- Operating voltage: 12V
- Low clamping voltage
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - – IEC61000-4-4 (EFT) 40A (5/50ns)
  - – IEC61000-4-5 (Lightning) 13A (8/20μs)
- RoHS Compliant

Dimensions SOT-23

Pin Configuration



Applications

- USB Ports
- SIM Ports
- Smart Phones
- Wireless Systems
- Set-top box and digital TV
- Digital video interface (DVI)
- Ethernet 10/100 Base T

Mechanical Characteristics

- Package: SOT-23
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3,000pcs
- Reel Size:7inch
- Device Marking: BWA

Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

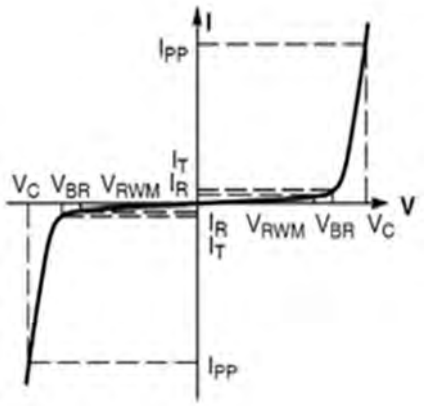
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	350	W
ESD per IEC 61000−4−2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000−4−2 (Contact)		± 30	
Operating Temperature Range	T_J	-40 to +125	℃
Storage Temperature Range	T_{STJ}	-55 to +150	℃

Electrical Characteristics(TA=25°C unless otherwise specified)

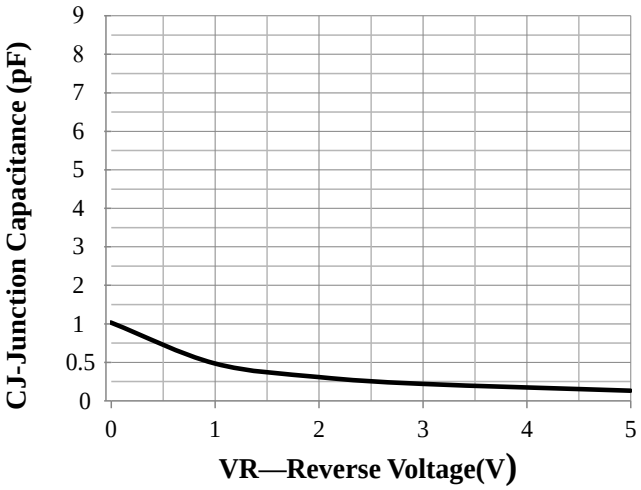
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				12	V
Breakdown Voltage	V_{BR}	I_T = 1mA	13	15	17	V
Reverse Leakage Current	I_R	V_{RWM} = 12V			0.1	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20 μs pulse)		16	18	V
Clamping Voltage	V_C	I_{PP} = 13A (8 x 20 μs pulse)		25	28	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		0.6	1	pF

Electrical Parameters(TA=25°C unless otherwise specified)

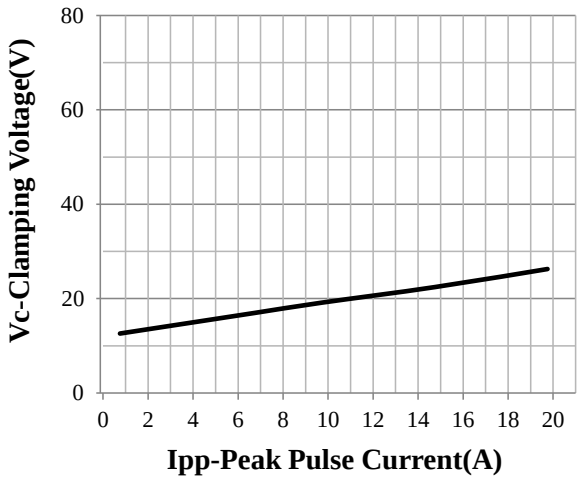
Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @I_{PP}



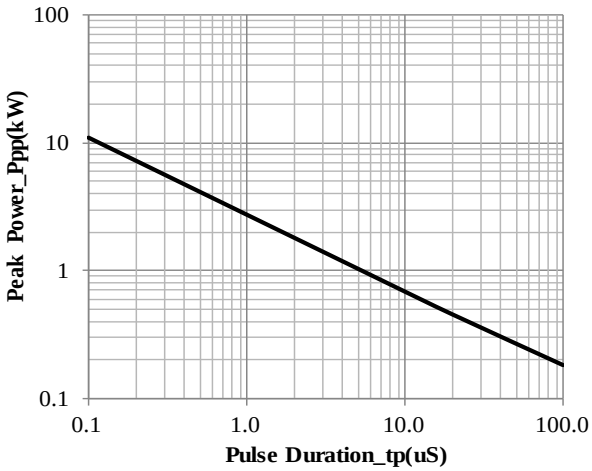
Typical Performance Characteristics(TA=25°C unless otherwise specified)



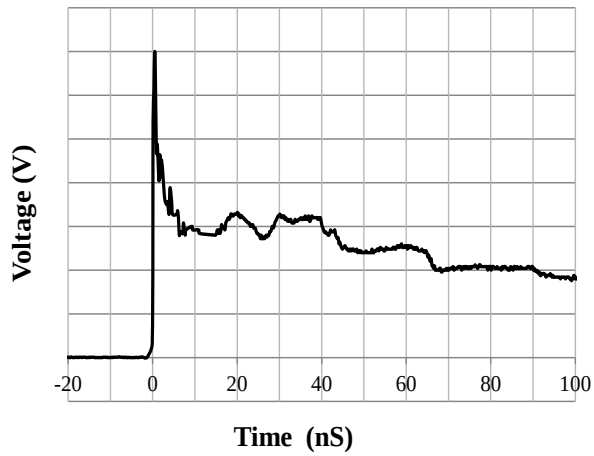
Junction Capacitance vs. Reverse Voltage



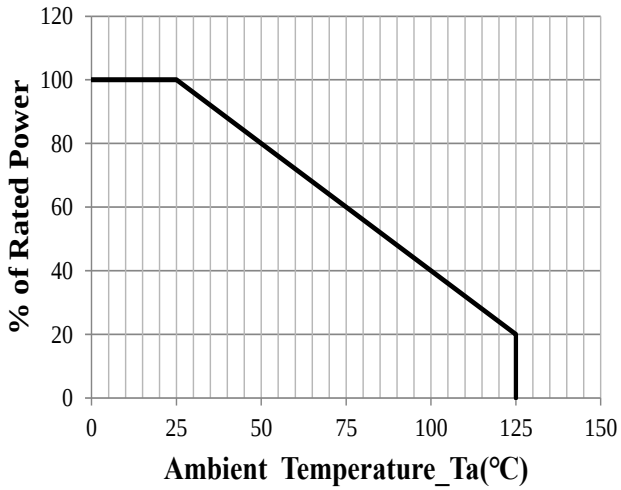
Clamping Voltage vs. Peak Pulse Current



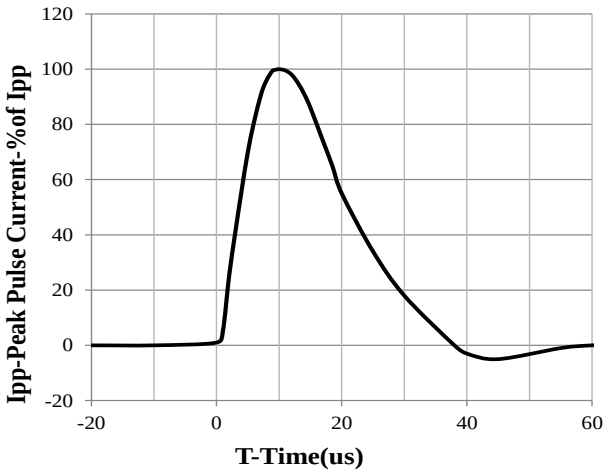
Peak Pulse Power vs. Pulse Time



IEC61000−4−2 Pulse Waveform

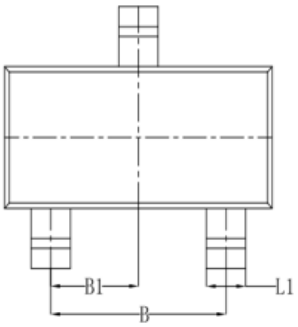


Power Derating Curve

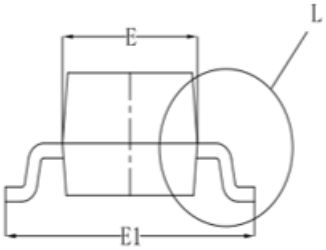


8 X 20us Pulse Waveform

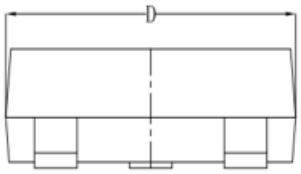
SOT-23 Package Outline Drawing



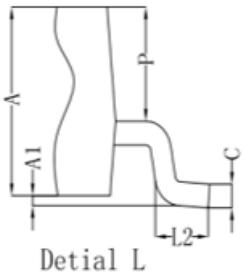
TOP VIEW



SIDE VIEW



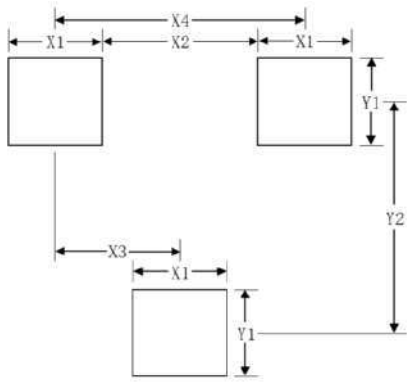
SIDE VIEW



SIDE VIEW

SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	Min	Typ	Max	Min	Typ	Max
A	0.900	1.000	1.100	0.0354	0.0394	0.0433
A1	0.000	0.050	0.100	0.0000	0.0020	0.0039
B	1.900 TYP			0.0748 TYP		
B1	0.950 TYP			0.0374 TYP		
C	0.100	0.110	0.120	0.0039	0.0043	0.0047
D	2.800	2.900	3.000	0.1102	0.1142	0.1181
E	1.250	1.300	1.350	0.0492	0.0512	0.0531
E1	2.250	2.400	2.550	0.0886	0.0945	0.1004
L1	0.350	0.400	0.500	0.0138	0.0157	0.0197
L2	0.200	0.350	0.450	0.0079	0.0138	0.0177
P	0.550	0.575	0.600	0.0217	0.0226	0.0236

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETER	INCHES
X1	0.800	0.031
X2	1.100	0.043
X3	0.950	0.037
X4	1.900	0.075
Y1	0.800	0.031
Y2	2.200	0.087