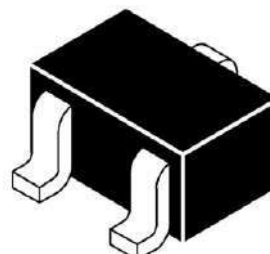


2-Line Bi-directional TVS Diode Array

Features

- Ultra low leakage: nA level
- Operating voltage: 24V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 5A (8/20 μs)
- RoHS Compliant
- AEC-Q101 qualified

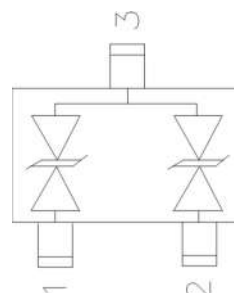
Dimensions SOT-323



Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Networking and Telecom
- Serial and Parallel Ports
- Peripherals

Pin Configuration



Mechanical Characteristics

- Package: SOT-323
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 3000 pcs
- Reel Size: 7 inch
- Device Marking: 24TL

Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	160	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	-55 to +125	°C
Storage Temperature Range	T _{STJ}	-55 to +150	°C

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

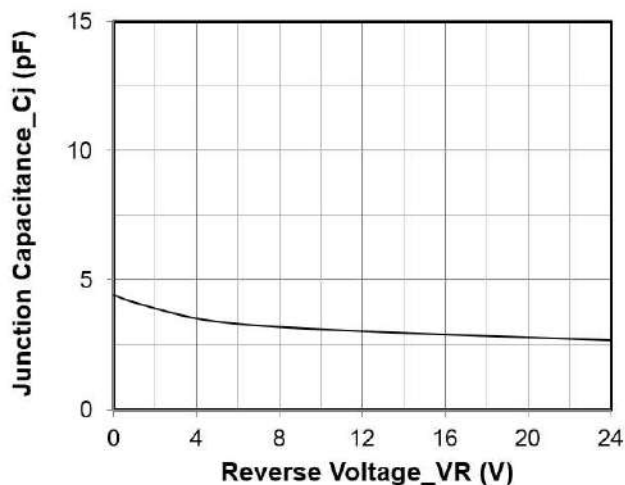
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			24	V	Any I/O pin to ground
Breakdown Voltage	VBR	26.5	30	36	V	IT = 1mA, any I/O pin to ground
Reverse Leakage Current	IR			0.2	μA	T = 25°C, VRWM = 24V, any I/O pin to ground
				0.3	μA	T = 125°C, VRWM = 24V, any I/O pin to ground
Clamping Voltage ⁽¹⁾	VC			25	V	IPP = 1A (8 x 20μs pulse), any I/O pin to ground
				32	V	IPP = 5A (8 x 20μs pulse), any I/O pin to ground
ESD Clamping Voltage ⁽²⁾	VC		26		V	IPP = 4A, tp = 0.2/100ns (TLP)
			29.5		V	IPP = 16A, tp = 0.2/100ns (TLP)
Dynamic Resistance ⁽³⁾	RDYN		0.29		Ohm	tp = 0.2/100ns (TLP)
Junction Capacitance	CJ		5	9	pF	VR = 0V, f = 1MHz, any I/O pin to ground

(1) Measured using a constant current source.

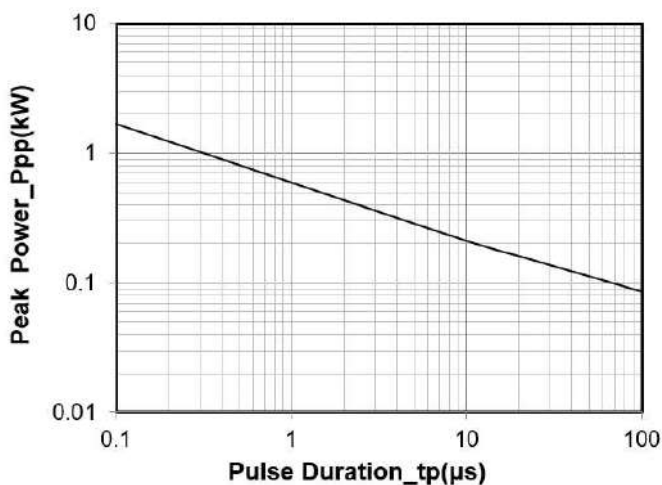
(2) Transmission Line Pulse Test (TLP) Settings: tp = 100ns, tr = 0.2ns

(3): Dynamic resistance calculated from ITLP = 4A to ITLP = 16A

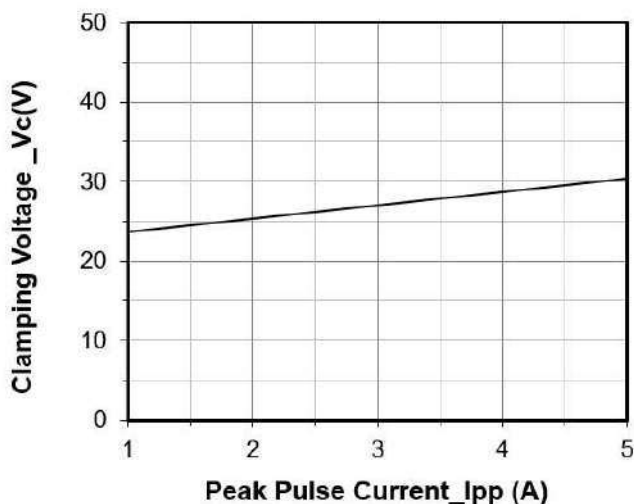
Typical Performance Characteristics (TA=25°C unless otherwise specified)



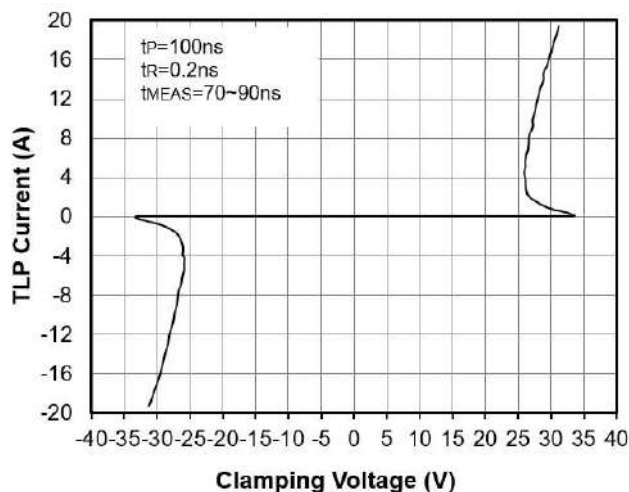
Junction Capacitance vs. Reverse Voltage



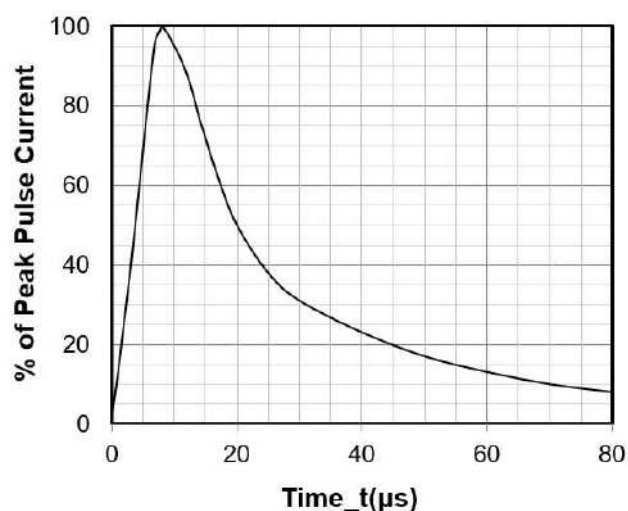
Peak Pulse Power vs. Pulse Time



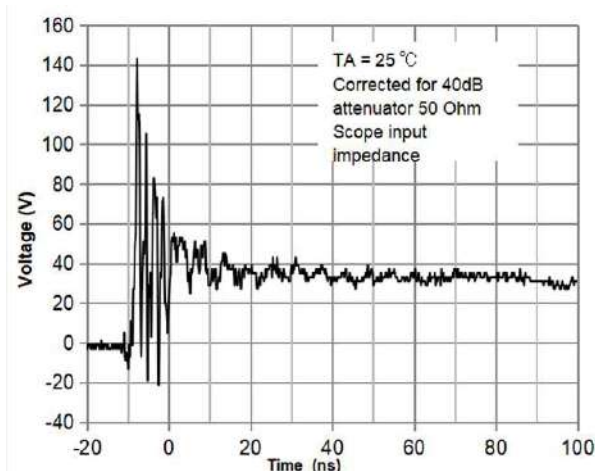
Clamping Voltage vs. Peak Pulse Current (tp = 8/20μs)



TLP Measurement



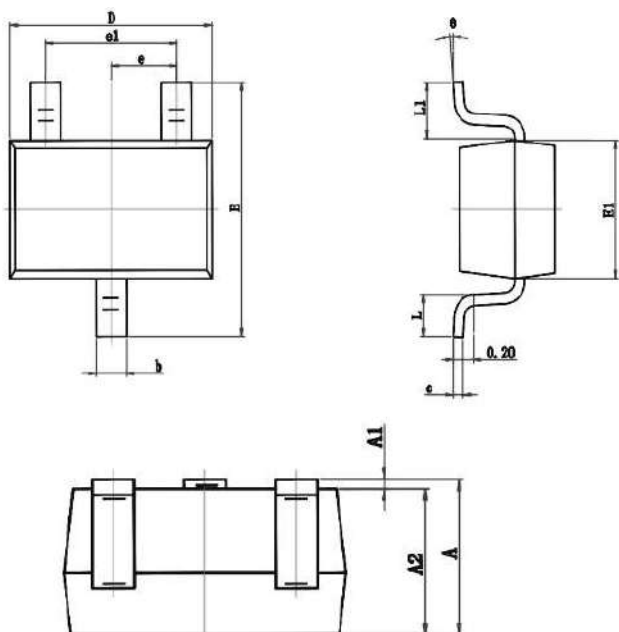
8X20μs Pulse Waveform



ESD Clamping Voltage

8 kV Contact per IEC61000-4-2

SOT-323 Package Outline Drawing



Symbol	Dim in mm		
	Min	Nor	Max
A	0.90	1.00	1.10
A1	0.00	0.05	0.10
A2	0.90	0.95	1.00
b	0.20	0.30	0.40
c	0.08	0.12	0.15
D	2.00	2.10	2.20
E	2.15	2.30	2.45
E1	1.15	1.25	1.35
e	0.650TPY.		
e1	1.2	1.3	1.4
L	0.26	0.36	0.46
L1	0.525REF.		
θ	0°	4°	8°

Suggested Land Pattern

