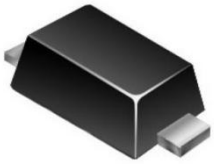
SSCE24V32D3

1-line Bi-directional TVS Diodes for ESD Protection

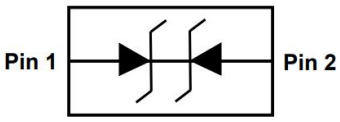
● Description

The SSCE24V32D3 is a bi-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive high-speed data lines. The SSCE24V32N1 has an ultra-low capacitance with a typical value at 0.3pF, and complies with the IEC 61000-4-2 (ESD) with ±15kV air and ±10kV contact discharge.

● PIN configuration



SOD-523



Top view

Marking

● Features

- ✧ Protects one I/O or Power Line
- ✧ SOD-523 Package
- ✧ Working voltage:24V
- ✧ Low Leakage Current
- ✧ Small Body Outine Dimensions
- ✧ Response Time is Typically<1ns
- ✧ Complies with following standards:
  -IEC61000-4-2(ESD) ±10KV (contact),
  ±15KV (air)
  -IEC61000-4-5(Lightning) 1.5A(8/20μs)

● Mechanical Characteristics

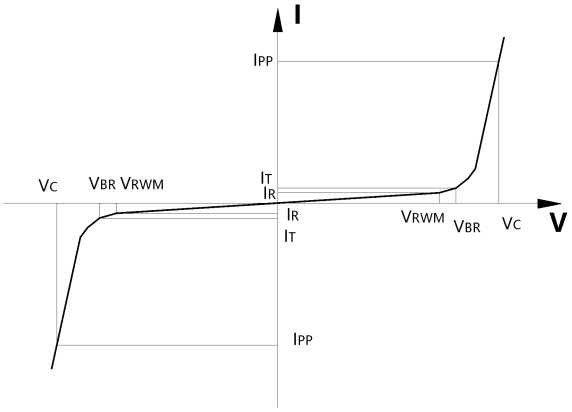
- ✧ Package: SOD-523
- ✧ Case Material：“Green” Molding Compound.
- ✧ UL Flammability Classification Rating 94V-0
- ✧ Moisture Sensitivity: Level 3 per-J-STD-020
- ✧ Terminal Connections: See Diagram Below
- ✧ Marking Information: See Below

● Applications

- ✧ Cellular Handsets and Accessories
- ✧ Personal Digital Assistants
- ✧ Notebooks and Handhelds
- ✧ Portable Instrumentation
- ✧ Digital Cameras
- ✧ Peripherals
- ✧ Audio Players
- ✧ Industrial Equipment

Electronic Parameter

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}
P_{PP}	Peak Pulse Power
C_J	Junction Capacitance



Absolute maximum rating @T_A=25℃

Parameter		Symbol	Value	Units
Peak Pulse Power（8/20μs）		P_{PP}	70	W
Peak Pulse Current（8/20μs）		I_{PP}	1.5	A
ESD Rating per IEC61000-4-2:	Contact Air	V_{ESD}	±10 ±15	kV
Storage Temperature		T_{STG}	-55/+150	℃

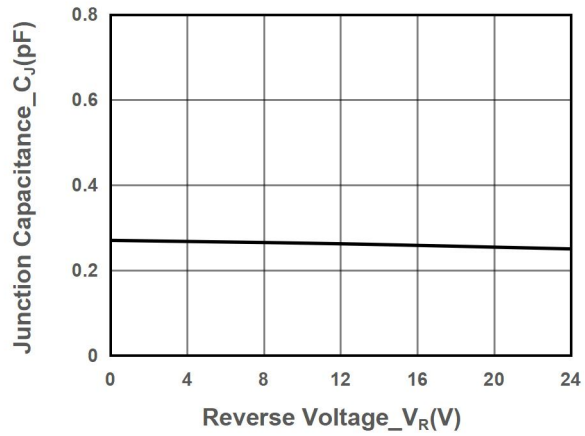
Electrical Characteristics @T_A=25℃

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	V_{RWM}				24	V
Breakdown Voltage	V_{BR}	I_T = 1mA	24.5			V
Reverse Leakage Current	I_R	V_{RWM} = 24V			0.2	μA
Clamping Voltage	V_C	I_{PP} = 1A, t_P = 8/20μs			40	V
Clamping Voltage	V_C	I_{PP} = 1.5A, t_P = 8/20μs			45	V
ESD Clamping Voltage(Note1)	V_{CL-ESD}	IEC 61000-4-2+ 8kV(I_{TLP}=16A),contact mode,T=25℃, pin1 to pin2,pin2 to pin1		60		V
Dynamic resistance	R_{DYN}			1.5		Ω
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		0.3	0.5	pF

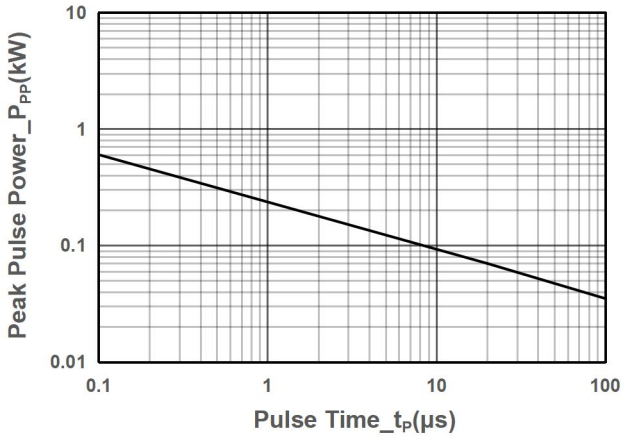
Note 1: ESD Clamping Voltage was measured by Transmission Line Pulsing (TLP) System.

TLP conditions：Z_0=50Ω， t_p= 100ns， t_r= 1ns.

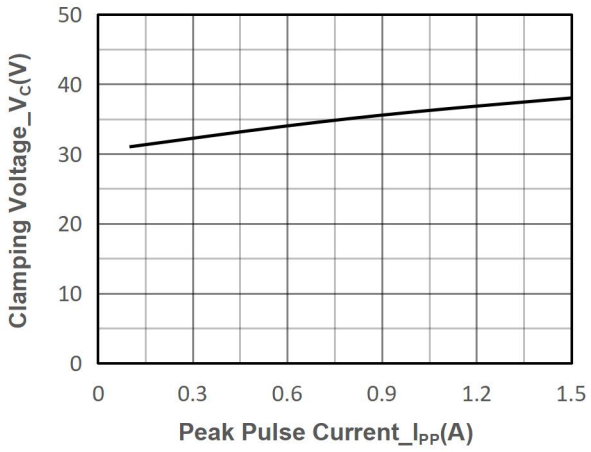
- **Typical Performance Characteristics (T_A=25℃ unless otherwise Specified)**



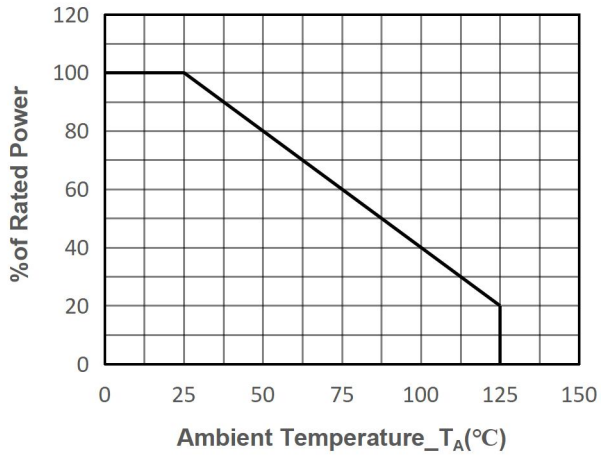
Junction Capacitance vs. Reverse Voltage



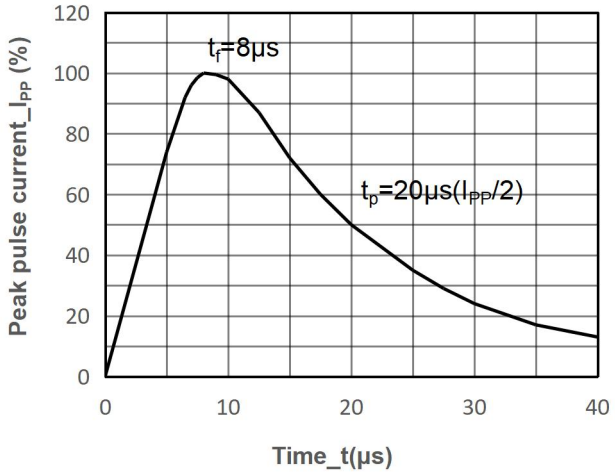
Peak Pulse Power vs. Pulse Time



Clamping Voltage vs. Peak Pulse Current



Power derating vs. Ambient temperature



8/20μs Pulse Waveform

- **Package Information**

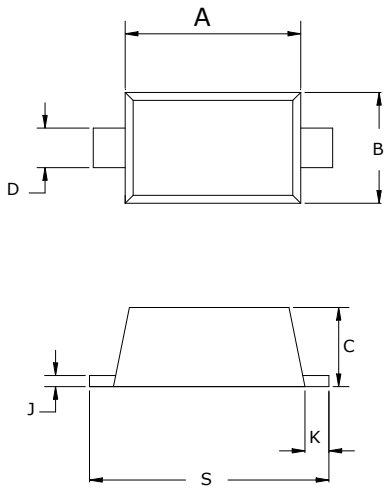
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCE24V32D3	SOD-523	3000	7 Inch

Mechanical Data

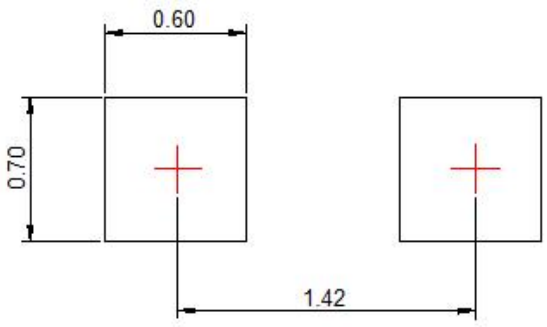
Case: SOD-523

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	1.10	1.30
B	0.70	0.85
C	0.50	0.77
D	0.25	0.38
J	0.07	0.15
K	0.15	0.25
S	1.50	1.70

Suggested Land Pattem（Unit:mm）



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