

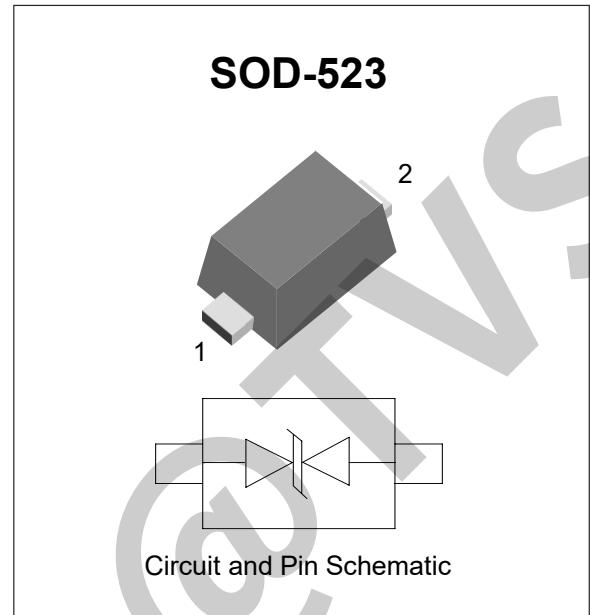
1-Line Ultra Low Capacitance Bi-directional TVS Diode

Features

- Ultra low capacitance: 0.80pF typical
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- IEC 61000-4-2 ESD: Air $\pm 15\text{kV}$, Contact $\pm 8\text{kV}$
- RoHS Compliant

Mechanical Data

- Package: SOD-523
- Lead Finish: Matte Tin
- Case Material: Green Molding Compound
- Moisture Sensitivity: Level 3 per J-STD-020



Applications

- Cellular Handsets and Accessories
- Display Ports, MDDI Ports
- USB Ports, DVI
- PCI Express and Serial SATA Ports

Ordering information

Ordercode	Marking	Package	Packaging option	Base quantity	Packaging specification
DC0521D5L	5S	SOD-523	Tape and reel	10000pcs / reel	EIA STD RS-481

Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

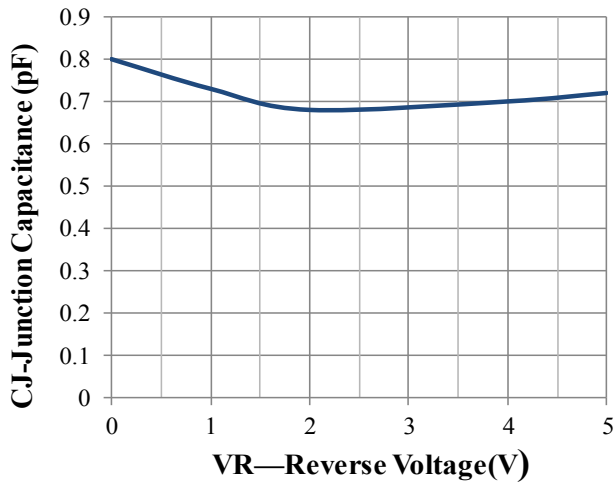
Parameter	Symbol	Value	Unit
Peak Pulse Power ($T_P=8/20\mu\text{s}$)	P_{PP}	40	W
ESD contact/air discharge (IEC-61000-4-2)	V_{ESD}	$\pm 8/\pm 15$	kV
Peak Pulse Current ($T_P = 8/20\mu\text{s}$)	I_{PP}	2	A
Junction Temperature	T_J	-55 to +125	°C
Operation temperature	T_{OP}	-55 to +125	°C
Storage temperature	T_{STG}	-55 to +150	°C

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

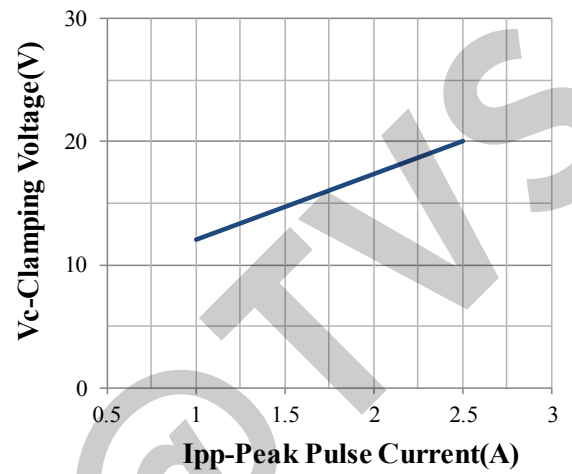
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V _{RWM}		-	-	5	V
Holding Voltage	V _{BR}	I _T = 1mA	6	-	9	V
Reverse Leakage Current	I _R	V _{RWM} = 5V	-	-	0.5	uA
Clamping Voltage	V _C	I _{PP} = 1A, t _p = 8/20μs	-	-	12	V
Clamping Voltage	V _C	I _{PP} = 2A, t _p = 8/20μs	-	-	20	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz	-	0.80	0.9	pF

DongChen@TVS

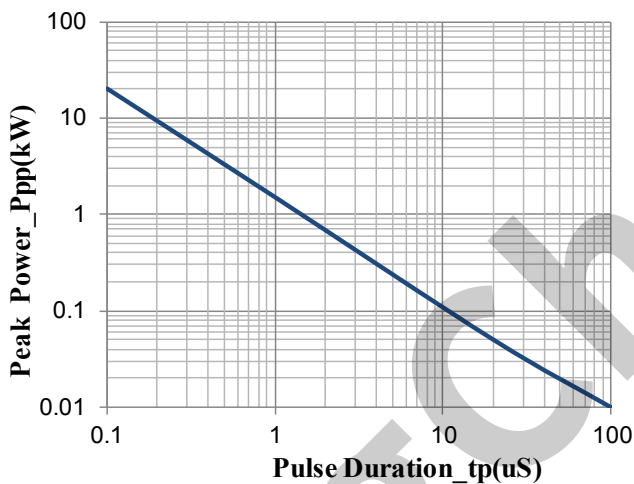
Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



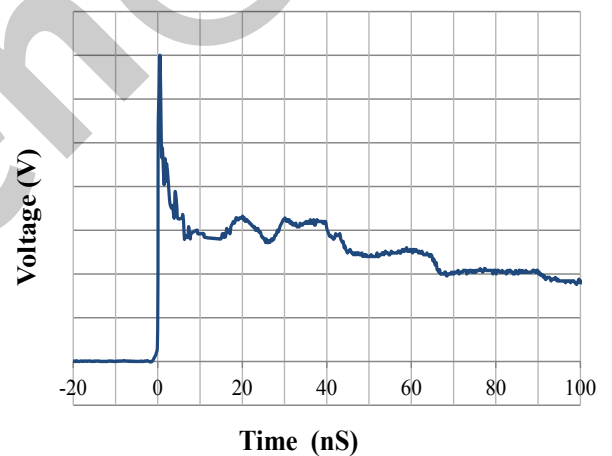
Junction Capacitance vs. Reverse Voltage



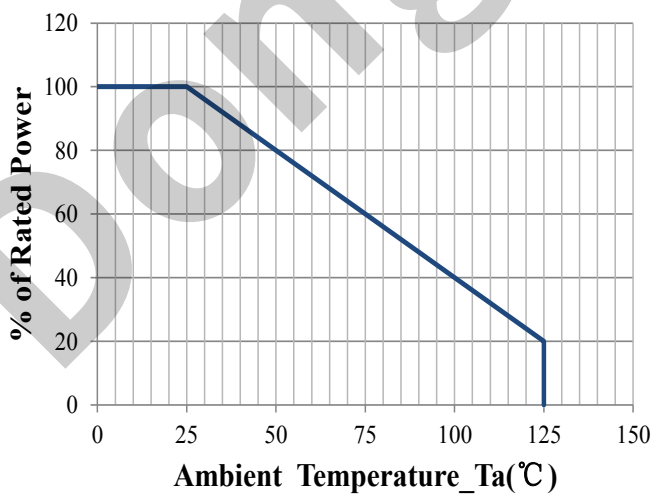
Clamping Voltage vs. Peak Pulse Current



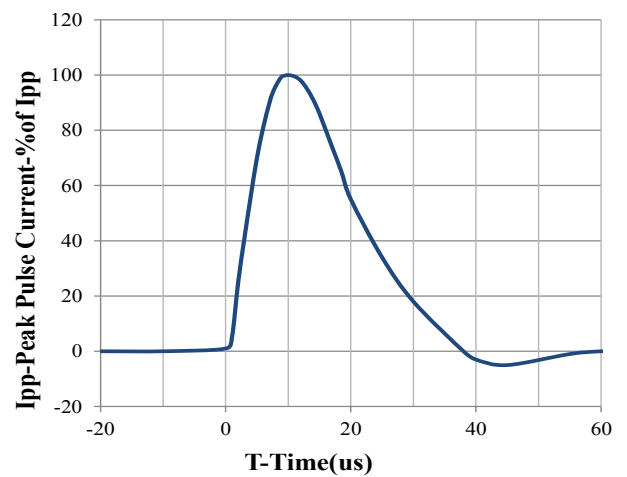
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

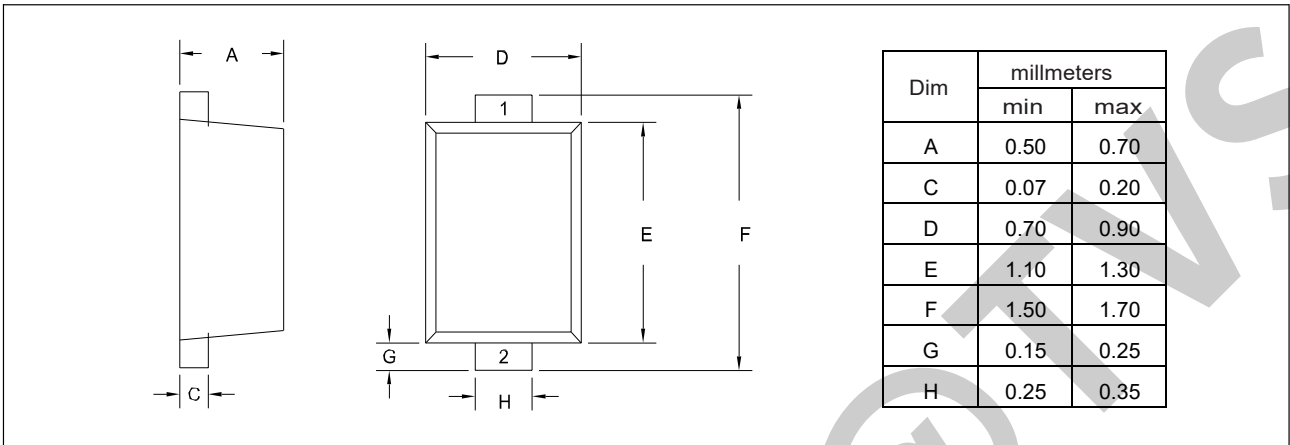


Power Derating Curve

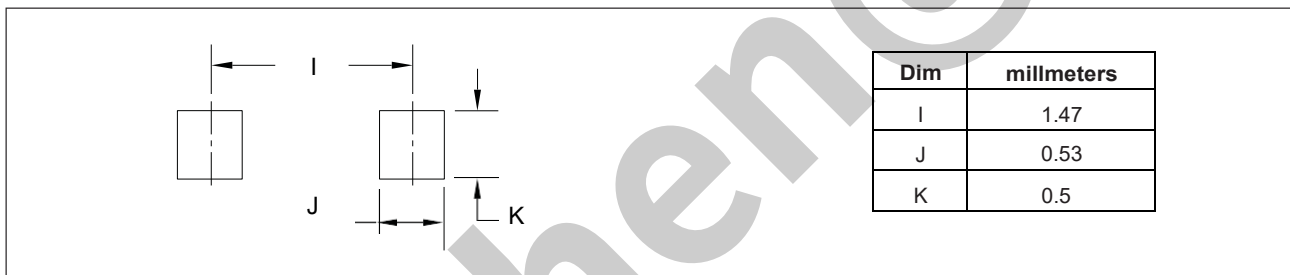


8 X 20us Pulse Waveform

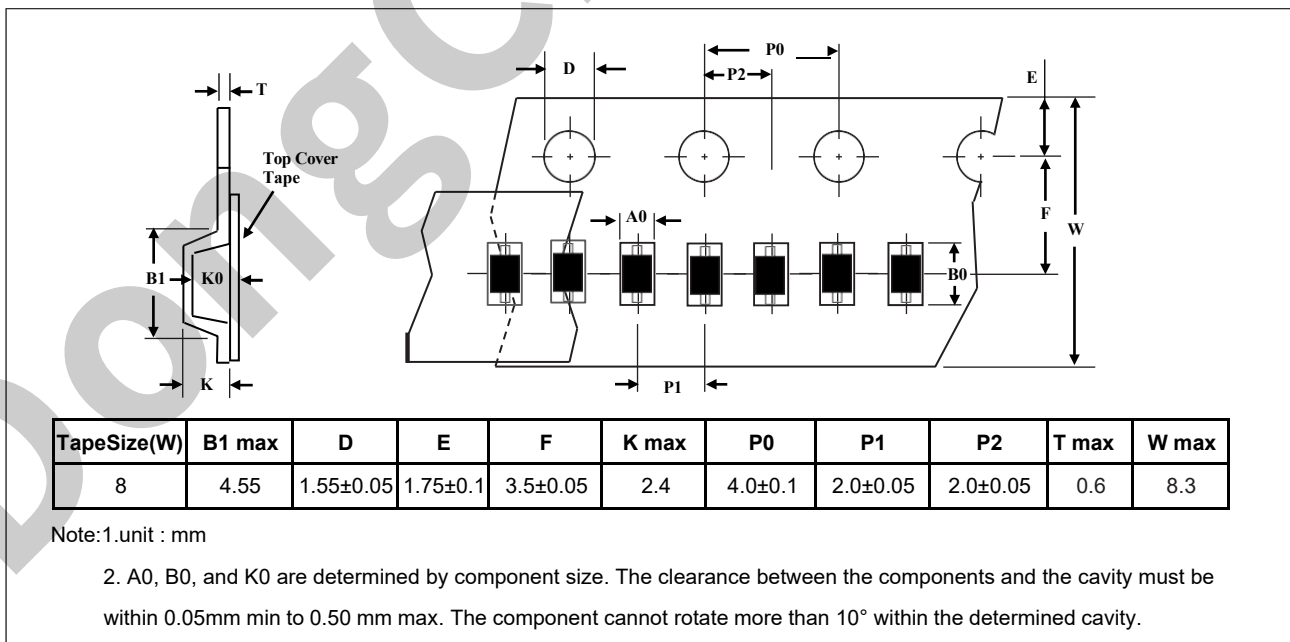
Package Dimensions



Pad Dimensions



Package Dimensions



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