

1-Line Uni-directional TVS Diode

Features

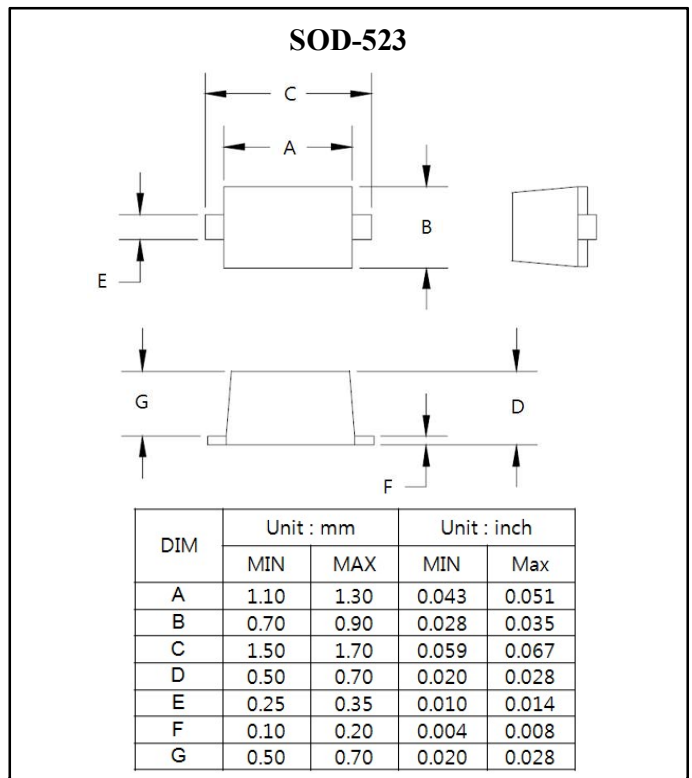
- Protects one data or power line
- Ultra low leakage : nA level
- Ultra Low operating voltage : 3.3V
- Ultra Low clamping voltage
- 2-pin leadless package
- Complies with following standards :
 - IEC 61000-4-2(ESD) immunity test
Air discharge : $\pm 30\text{kV}$, Contact discharge : $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 5A (8/20us)
- RoHS Compliant

Mechanical Data

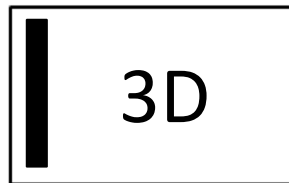
- Package : SOD-523
- Case Material : "Green" Molding Compound.
- Lead Finish : Matte Tin
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity : Level 3 per J-STD-020
- Terminal Connections : See Diagram Below

Applications

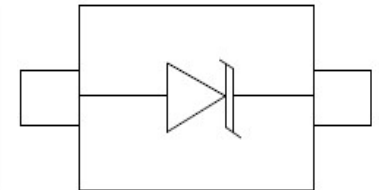
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays



Marking



3D=Device Marking Code
Bar denotes Pin1



Circuit and Pin Schematic

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20us)	Ppk	40	W
Peak Pulse Current (8/20us)	I _{PP}	5	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Junction Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

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

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Reverse Working Voltage	V _{RWM}	-	-	3.3	V	
Breakdown Voltage	V _{BR}	3.5	-	-	V	I _T = 2uA
Reverse Leakage Current	I _R	-	-	0.5	uA	V _{RWM} = 3.3V
Clamping Voltage	V _C	-	-	5	V	I _{PP} =1A(8×20us pulse)
Clamping Voltage	V _C	-	-	8	V	I _{PP} =5A(8×20us pulse)
Junction Capacitance	C _J	-	25	30.0	pF	f=1MHz, V _R =0V
Junction Capacitance	C _J	-	14	-	pF	f=1MHz, V _R =3.3V

Ratings and Characteristics Curves (Ta=25°C unless otherwise noted)

Fig.1 Power Derating Curve

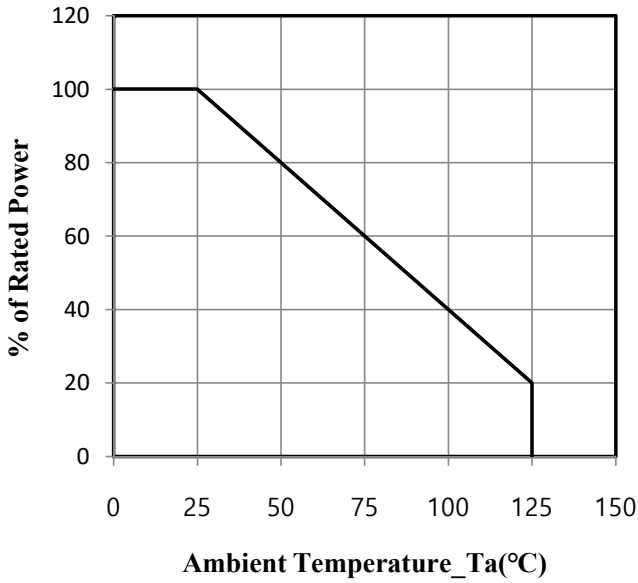


Fig.2 Peak Pulse Power vs. Pulse Time

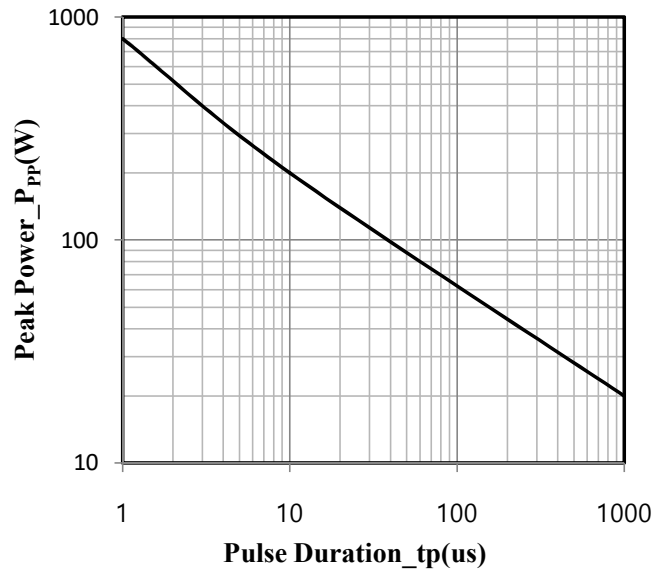


Fig.3 Clamping Voltage vs. Peak Pulse Current (tp=8/20us)

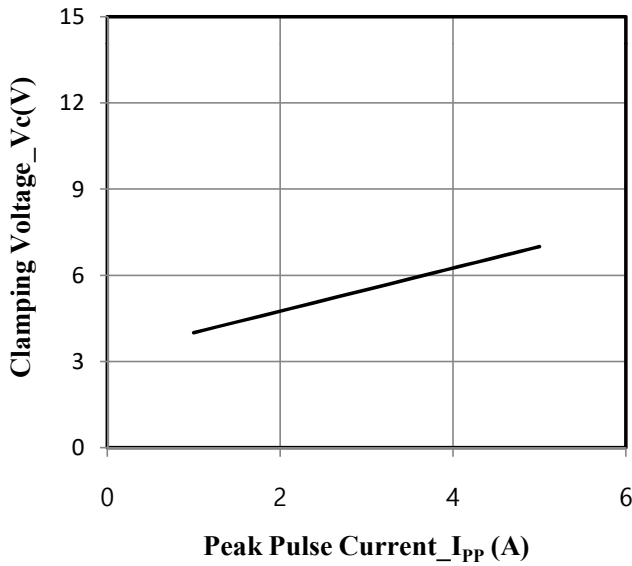


Fig.4 Junction Capacitance vs. Reverse Voltage

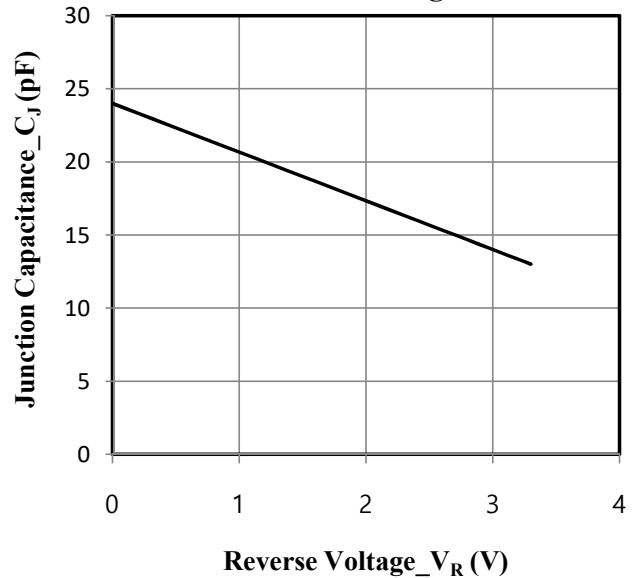


Fig.5 8 × 20us Pulse Waveform

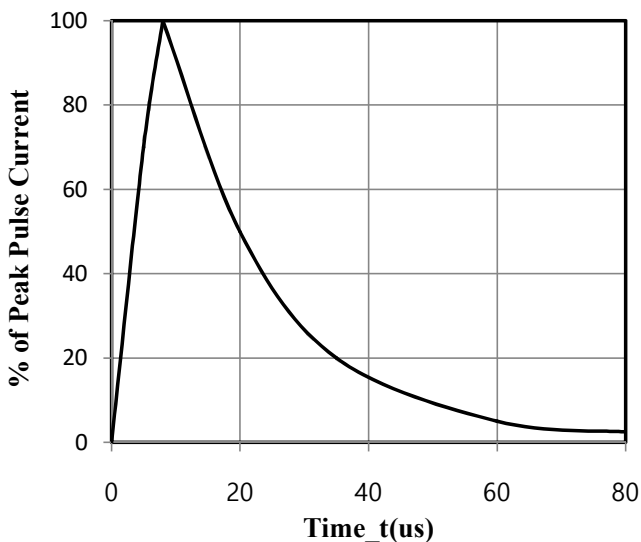


Fig. 6 ESD Clamping Voltage 8kV Contact per IEC61000-4-2

