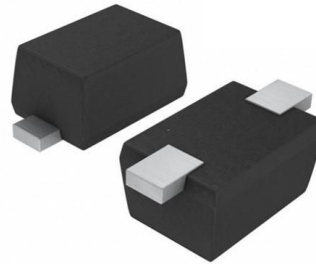


Features

- Low leakage: nA level
- Operating voltage: 3.3V
- Ultra low clamping voltage
- One data line protects
- RoHS compliant



IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 20\text{kV}$ contact $\pm 25\text{kV}$ air
- IEC 61000-4-5 (Lightning) 8A (8/20 μs)

SOD-523

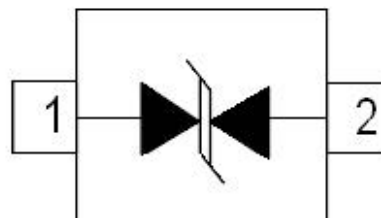
Applications

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

Mechanical Characteristics

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

Schematic & PIN Configuration



SOD-523

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power ($T_P = 8/20\mu s$ waveform)	P_{PP}	100	W
Peak Pulse Current (8/20 μs)	I_{PP}	8	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 25 ± 20	kV
Operating Temperature Range	T_J	-55 to +125	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}C$

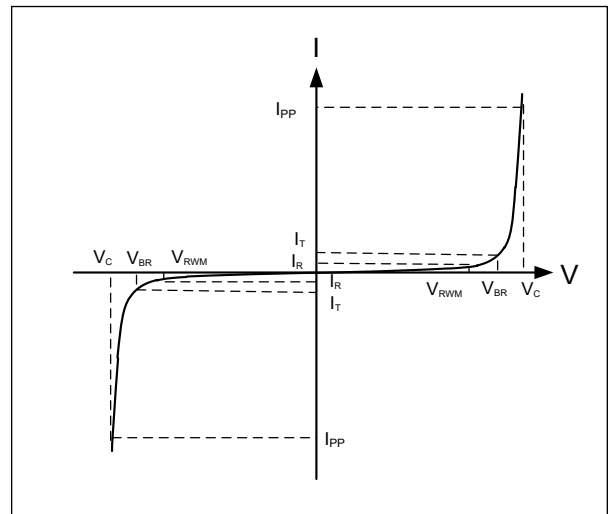
Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Punch-Through Voltage	V_{PT}	$I_T = 2\mu A$	3.8		6.5	V
Snap-Back Voltage	V_{SB}	$I_T = -50mA$	3.5			V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3V$			0.2	μA
Clamping Voltage	V_C	$I_{PP} = 1A$ (8 x 20 μs pulse)			6	V
Clamping Voltage	V_C	$I_{PP} = 8A$ (8 x 20 μs pulse)			12	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		12.5	25	pF

Electrical Parameters (TA = 25 $^{\circ}C$ unless otherwise noted)

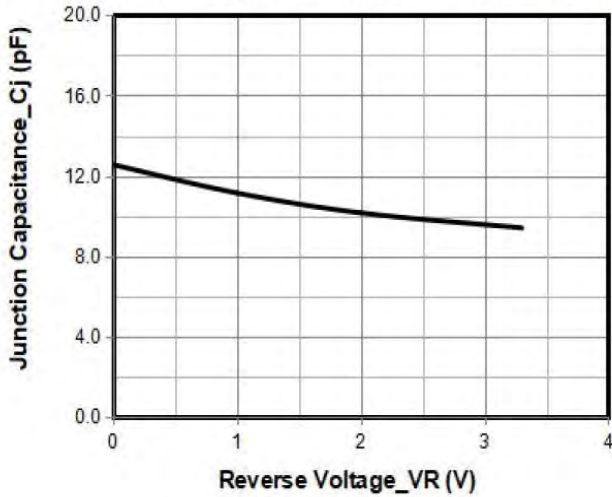
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current

Note: 8/20 μs pulse waveform.

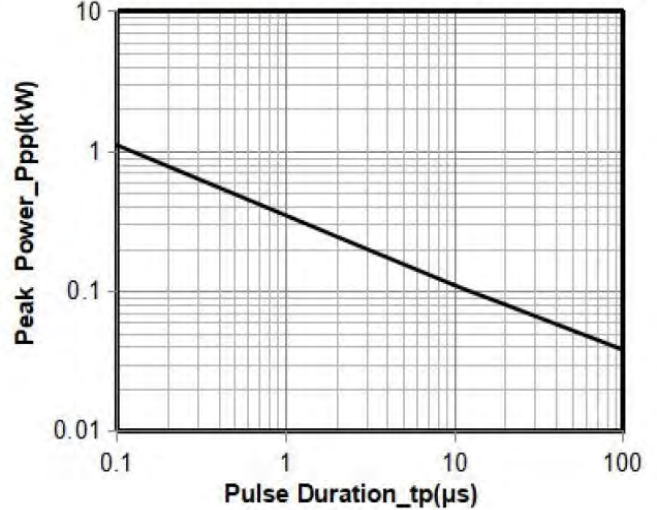


Typical Performance Characteristics

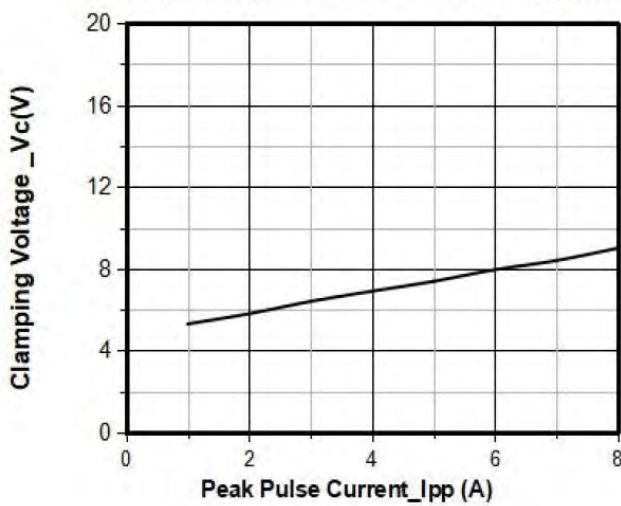
Junction Capacitance vs. Reverse Voltage



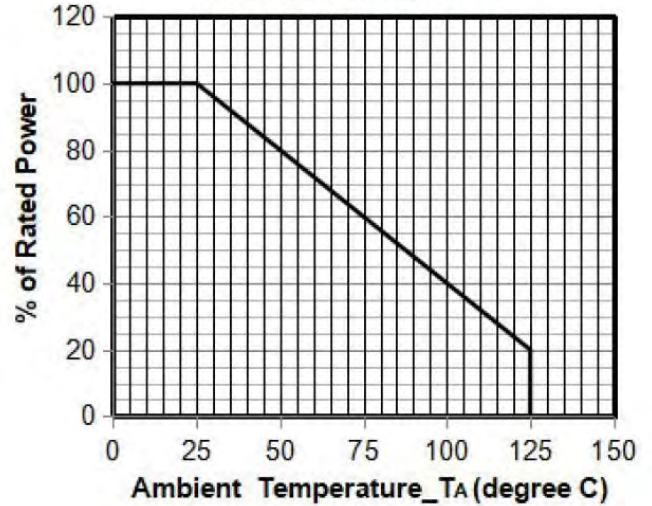
Peak Pulse Power vs. Pulse Time



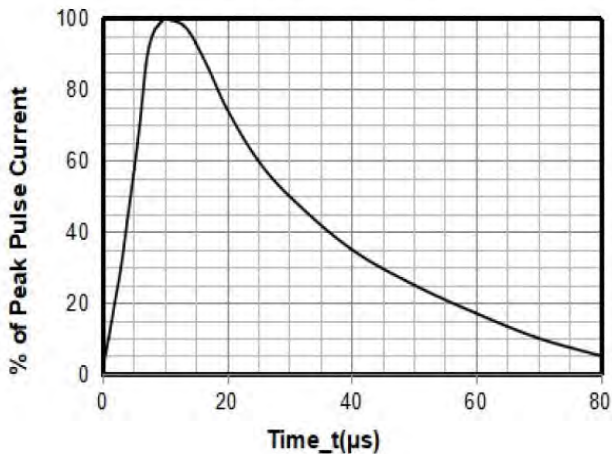
Clamping Voltage vs. Peak Pulse Current



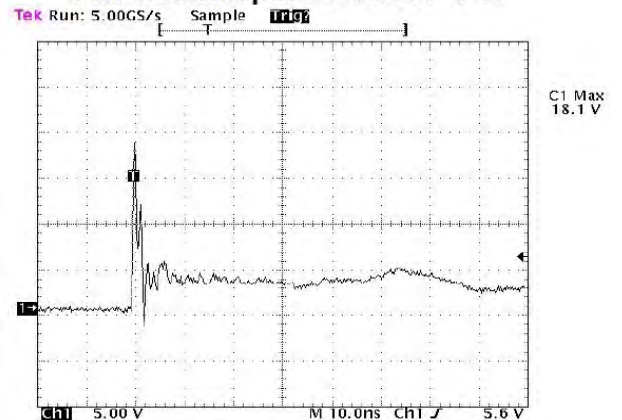
Power Derating Curve



8 X 20μs Pulse Waveform

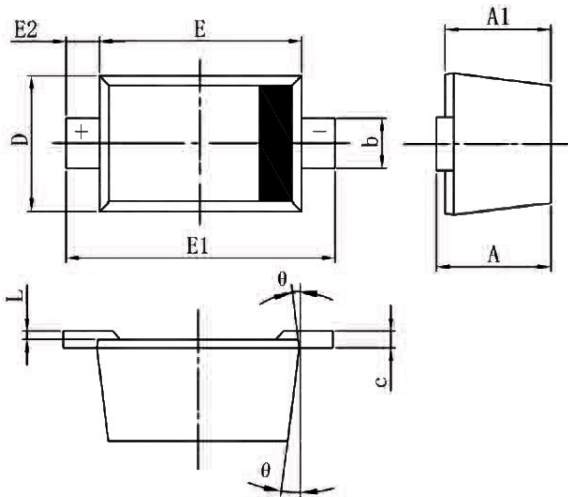


ESD Clamping Voltage
8 kV Contact per IEC61000-4-2



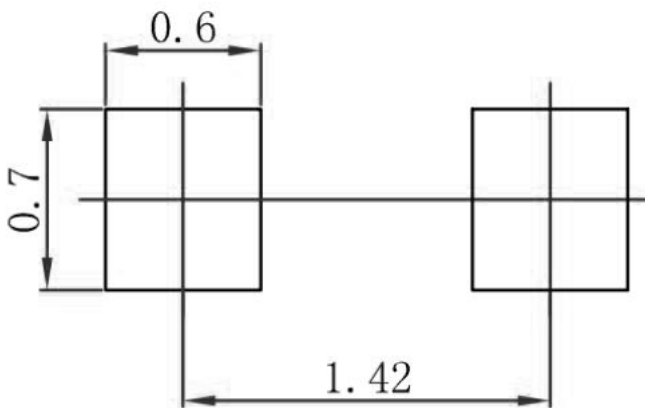
Note: Data is taken with a 10x attenuator

Package Mechanical Data



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.510	-	0.770	0.020	-	0.031
A1	0.500	-	0.700	0.020	-	0.028
b	0.250	-	0.350	0.010	-	0.014
c	0.080	-	0.150	0.003	-	0.006
D	0.750	-	0.850	0.030	-	0.033
E	1.100	-	1.300	0.043	-	0.051
E1	1.500	-	1.700	0.059	-	0.067
E2	0.20REF			0.008REF		
L	0.010	-	0.070	0.001	-	0.003
Φ	7°REF			7°REF		

Suggested Land Pattern



Package Information

Order code	Package	Base qty	Delivery mode
PTD522G25S3B10	SOD-523	3K	Tape and reel