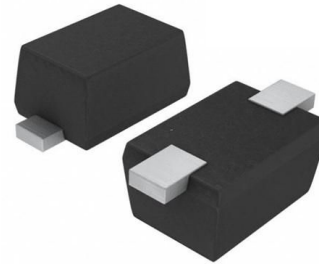


## Features

- Protects one data line
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- RoHS compliant



## IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 15\text{kV}$  contact  $\pm 20\text{kV}$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3A (8/20 $\mu\text{s}$ )

SOD-523

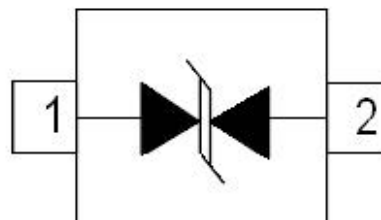
## Applications

- 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 ( $T_P = 8/20\mu\text{s}$ waveform)	$P_{PP}$	40	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	$I_{PP}$	3	A
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	$\pm 20$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 15$	
Operating Temperature Range	$T_J$	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

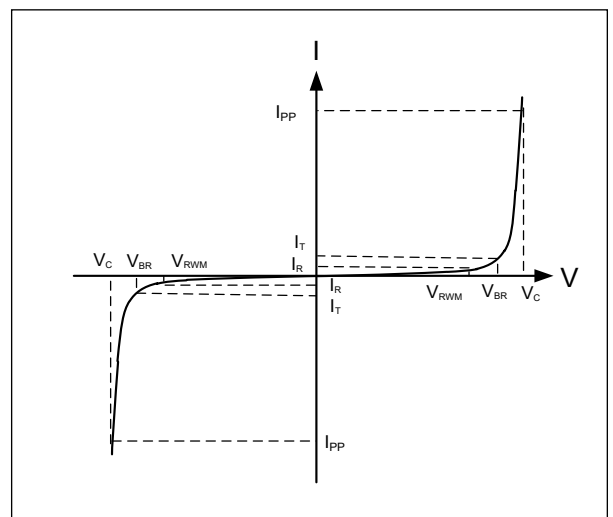
## Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{RWM}$				5	V
Punch-Through Voltage	$V_{BR}$	$I_T = 1\text{mA}$	6			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5\text{V}$			0.5	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP} = 1\text{A}$ (8 x 20 $\mu\text{s}$ pulse)			10	V
Clamping Voltage	$V_C$	$I_{PP} = 3\text{A}$ (8 x 20 $\mu\text{s}$ pulse)			15	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}$ , $f = 1\text{MHz}$		4.5	6	pF

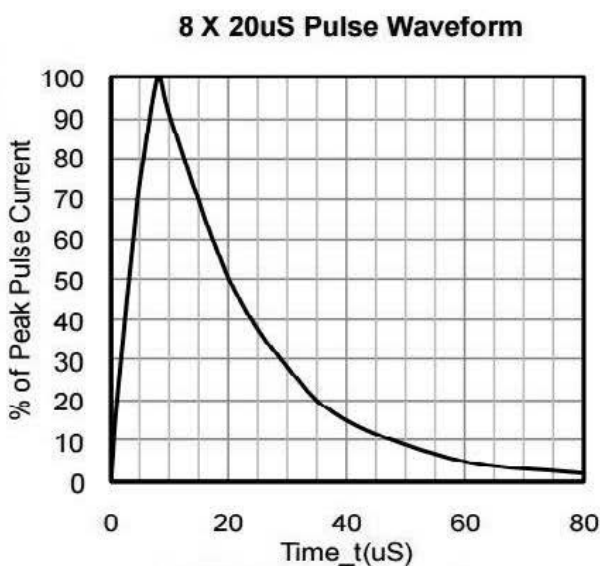
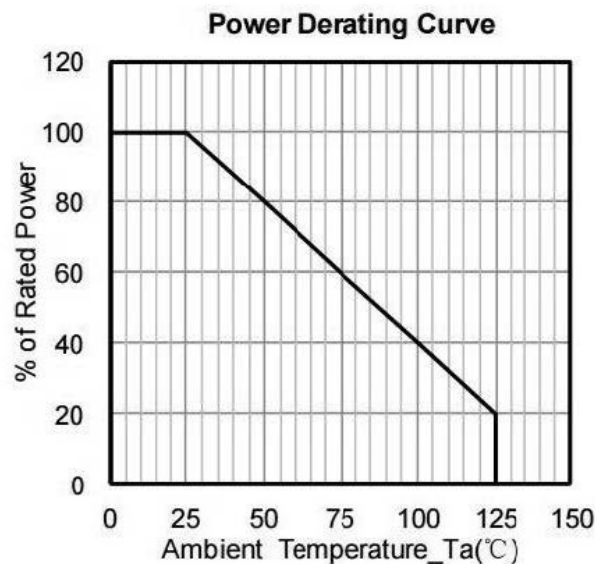
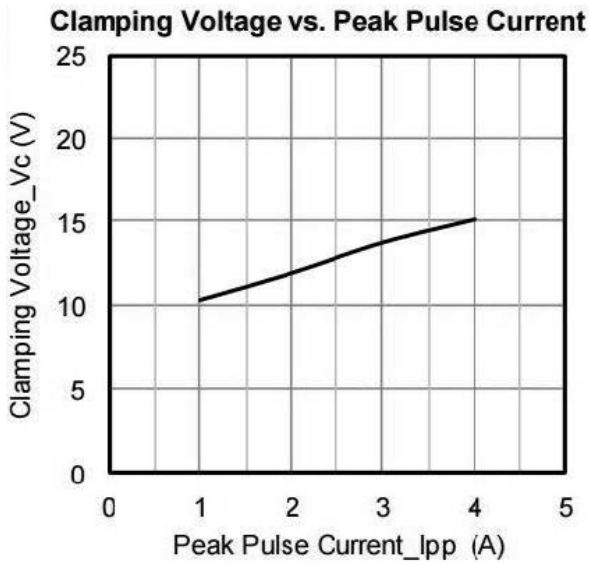
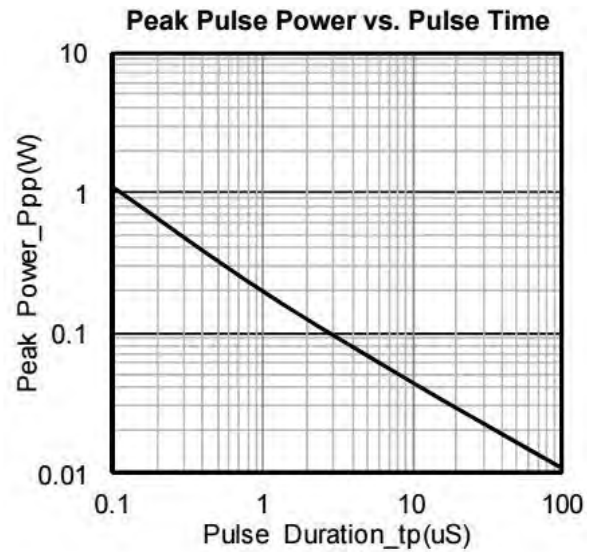
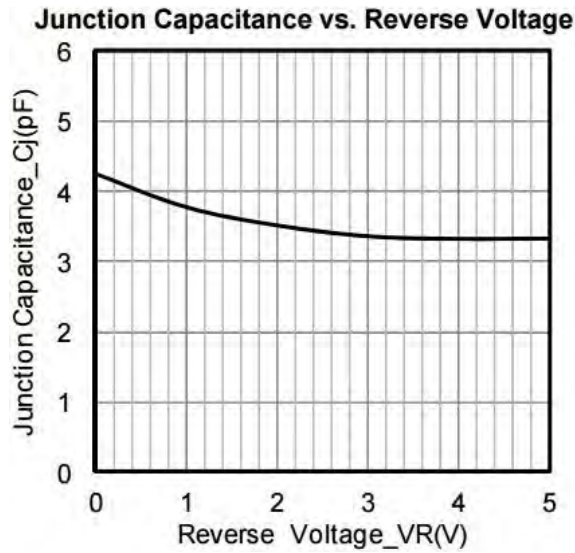
## Electrical Parameters (TA = 25 $^{\circ}\text{C}$ unless otherwise noted)

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

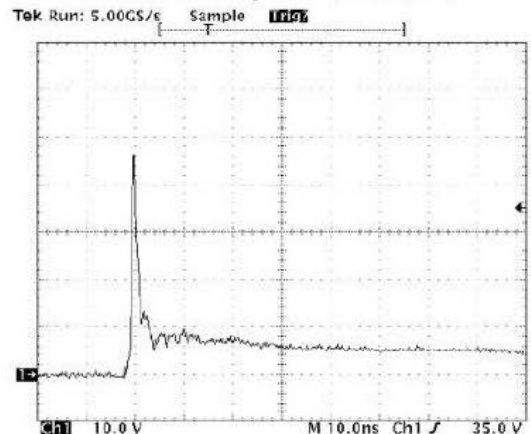
Note:.. 8/20 $\mu\text{s}$  pulse waveform.



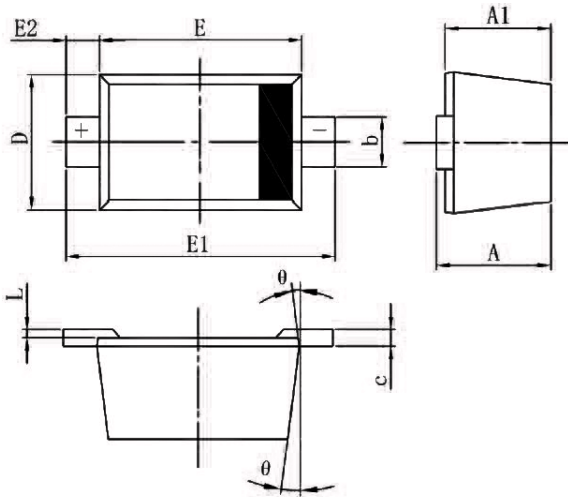
## Typical Performance Characteristics



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

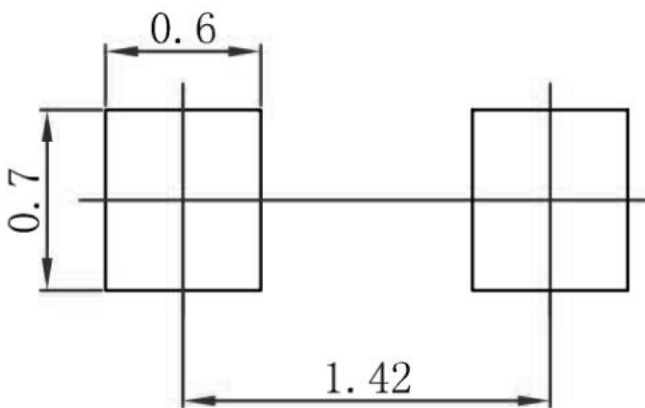


### Package Mechanical Data



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
PTD522L6S5B4	SOD-523	3K	Tape and reel