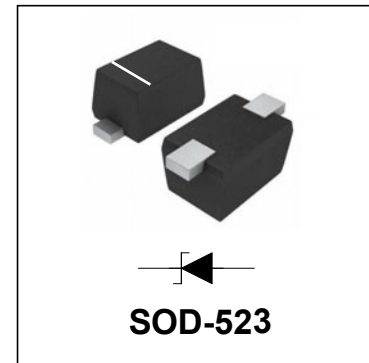


Features

- Unidirectional ESD protection of one I/O line
- Ultra low capacitance: typically 0.35pF
- Low clamping voltage
- Working voltage: 5V
- Low leakage current
- Solid-state silicon-avalanche technology
- IEC 61000-4-2 $\pm 20\text{kV}$ contact $\pm 20\text{kV}$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4.5A (8/20 μs)



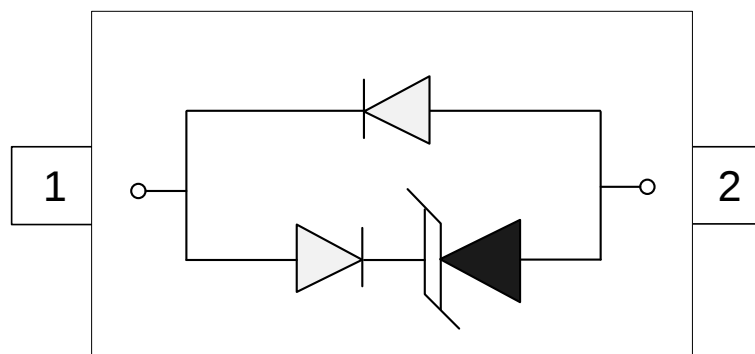
Mechanical Characteristics

- JEDEC SOD-523 package
- Molding compound flammability rating: UL 94V-0
- Marking : Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

Applications

- Smart Phone
- Laptop
- Wearable
- LCD TV
- USB 3.0/3.1
- PCI Express
- HDMI 1.3/1.4/2.0
- DVI

Schematic & PIN Configuration



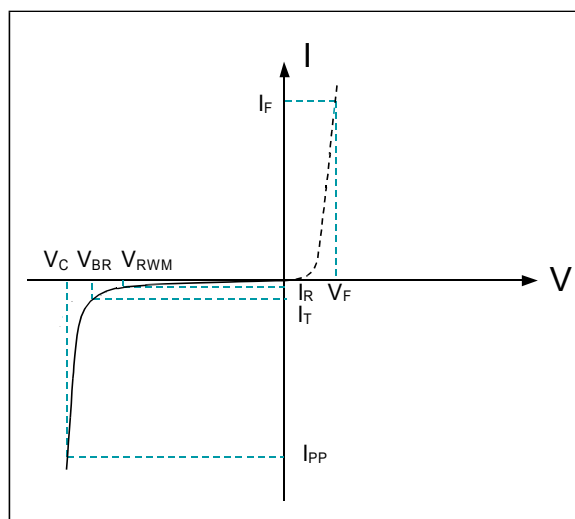
SOD-523 (Top View)

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	100	Watts
Peak Pulse Current ($t_p = 8/20\mu s$)(note1)	I_{pp}	4.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	20 20	kV
Lead Soldering Temperature	T_L	260(10seconds)	°C
Junction Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{stg}	-55 to + 125	°C

Electrical Parameters (TA = 25°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

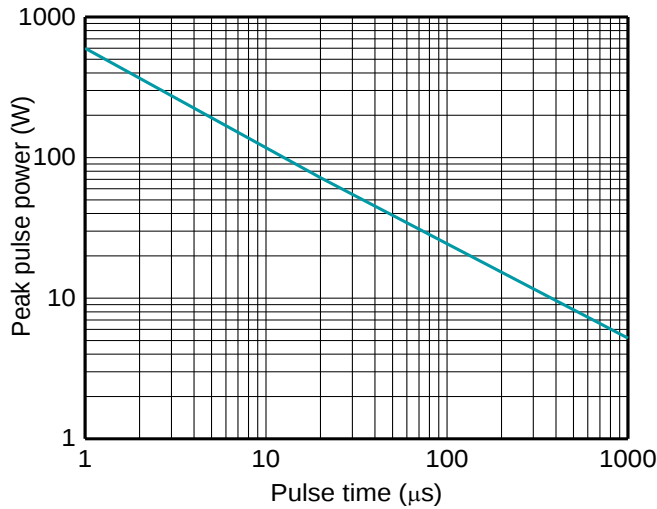


Note: 8/20μs pulse waveform.

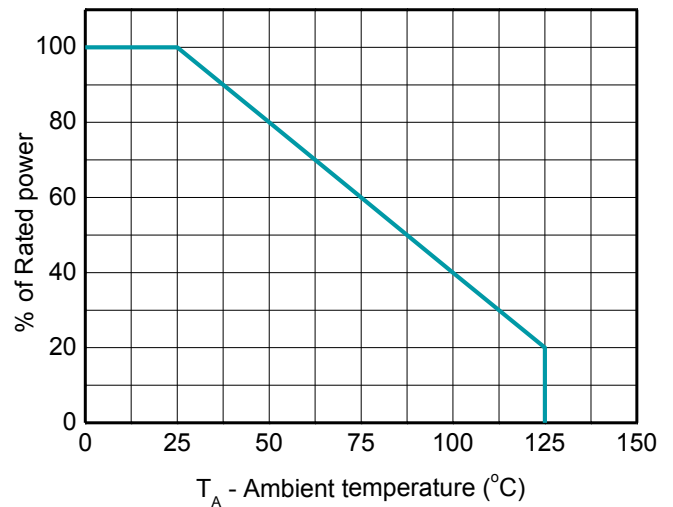
Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5V, T = 25^\circ C$			0.1	μA
Peak Pulse Current	I_{PP}	$t_p = 8/20\mu s$		4.5		A
Clamping Voltage	V_C	$I_{PP} = 4.5A, t_p = 8/20\mu s$		22		V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$		0.35		pF

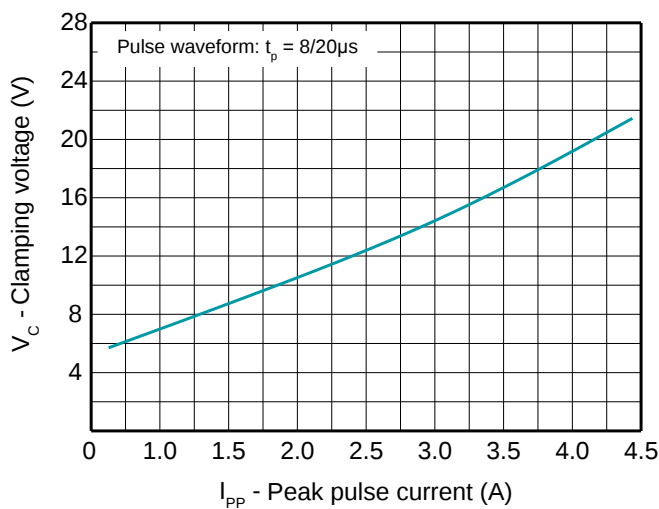
Typical Characteristics



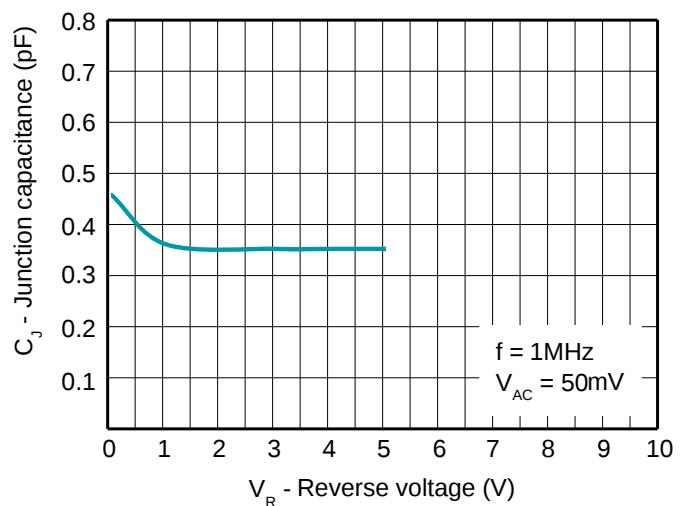
Non-repetitive peak pulse power vs. Pulse time



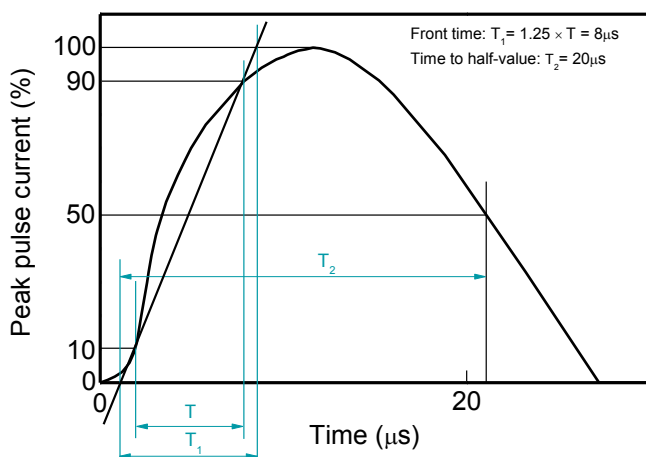
Power derating vs. Ambient temperature



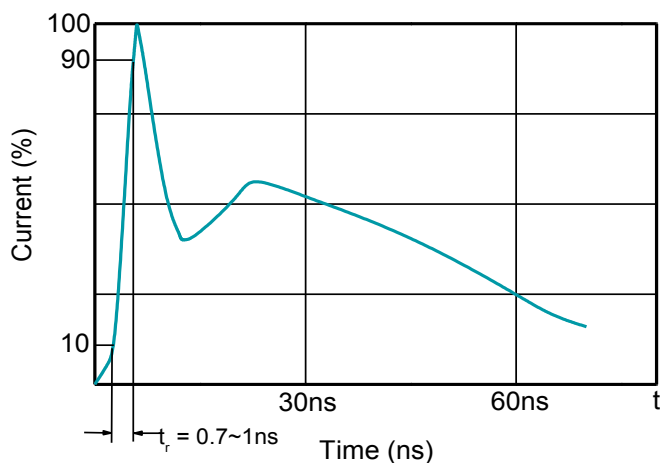
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage

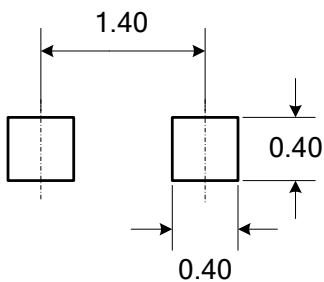
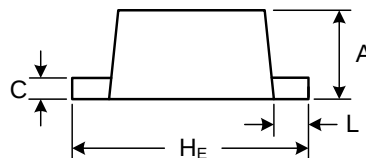
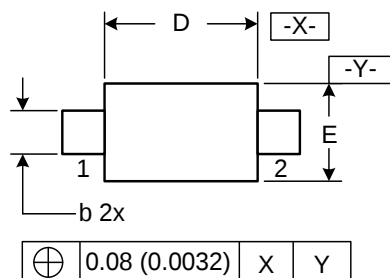


8/20 μ s waveform per IEC61000-4-5



Contact discharge current waveform per IEC61000-4-2

Outline Drawing – SOD-523

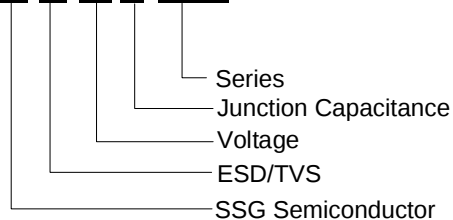


DIMENSIONS: MILLIMETERS

DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.50	0.70	0.020	0.028
b	0.25	0.35	0.010	0.014
C	0.07	0.20	0.0028	0.0079
D	1.10	1.30	0.043	0.051
E	0.70	0.90	0.028	0.035
H _E	1.50	1.70	0.059	0.067
L	0.15	0.25	0.006	0.010

Part Numbering System

S E 5V U D522



Device	Package	Shipping	MarKing	Parameter
SE5VUD522	SOD-523	3000/Tape&Reel	5*	5 = Product Code U = Device Code