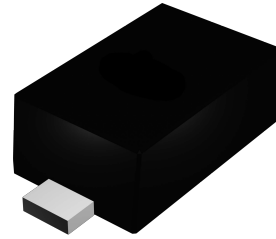


Features

- 40Watts peak pulse power ($t_p = 8/20\mu s$)
- SOD-523 package
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ($C_j = 2.7pF$ typ.)
- Protection one data/power line to:
 - IEC 61000-4-2 $\pm 10kV$ contact $\pm 15kV$ air
 - IEC 61000-4-4 (EFT) 40A (5/50ns)
 - IEC 61000-4-5 (Lightning) 3.5A (8/20 μs)
- RoHS compliant



SOD-523

Applications

- Audio Line, Speaker, Headset, Microphone Protection
- Human Interface Devices (Keyboard, Touchpad, Buttons)
- USB2.0 Protection



Schematic Diagram

Absolute Maximum Ratings ($T_A = 25^\circ C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($T_p = 8/20\mu s$)	P_{PP}	40	W
ESD Contact/air Discharge (IEC-61000-4-2)	V_{ESD}	10/15	kV
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	3.5	A
Junction Temperature	T_J	-55 to +125	$^\circ C$
Storage Temperature	T_{STG}	-55 to +150	$^\circ C$

Electrical Characteristics ($T_A = 25^\circ C$ unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V_{RWM}	-	-	-	5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	5.5	6.5	-	V
Reverse Leakage Current	I_R	$V_R = 5.0V$	-	5	100	nA
Clamping Voltage (IEC 61000-4-5)	V_C	$I_{PP} = 3.5A$	-	-	11.5	V
Trigger Voltage (IEC 61000-4-2)	V_T	$V_{ESD} = 8kV$	-	35	-	V
Clamping Voltage (IEC 61000-4-2)	V_C	$V_{ESD} = 8kV$	-	5	-	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$	-	2.7	3.5	pF

Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

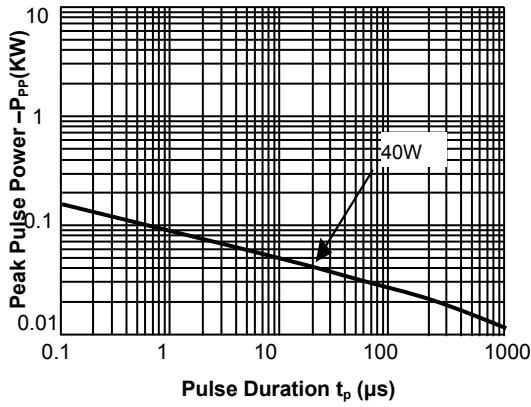


Fig.2 Pulse Derating Curve

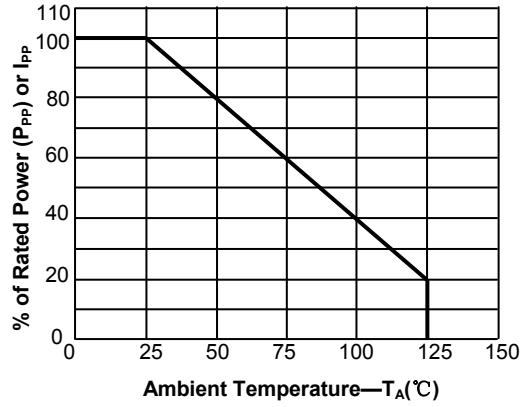


Fig.3 Pulse Waveform-8/20μs

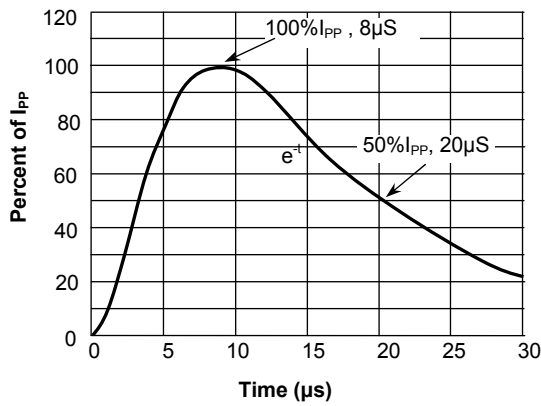
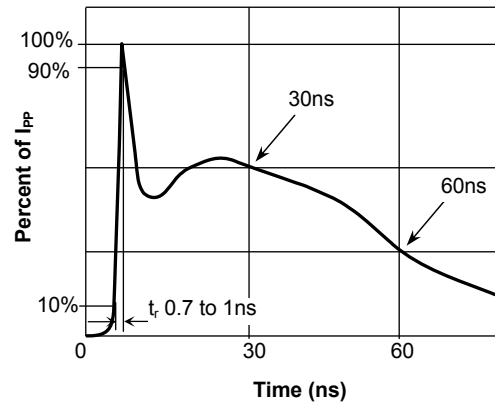
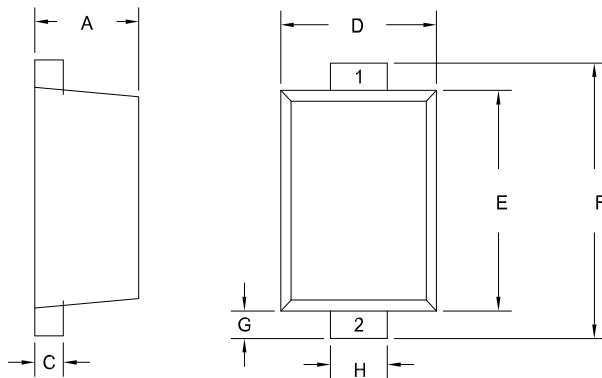


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)



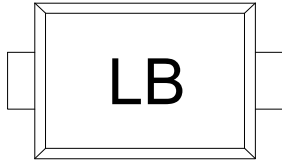
Product Dimensions



Dim	millimeters	
	min	max
A	0.50	0.70
C	0.07	0.20
D	0.70	0.90
E	1.10	1.30
F	1.50	1.70
G	0.15	0.25
H	0.25	0.35



Marking



Order Information

Device	Package	Carrier	Quantity	HSF Status
SPESUC5VD523-2B	SOD-523	Tape & Reel	3000pcs/Reel	RoHS compliant