

Features

- 500 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- Replacement for MLV (0603)
- Protects one I/O or power line
- Low Clamping Voltage
- Working Voltage: 12V
- Low Leakage Current
- Response Time is Typically $< 1 ns$



IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 12A (8/20 μs)

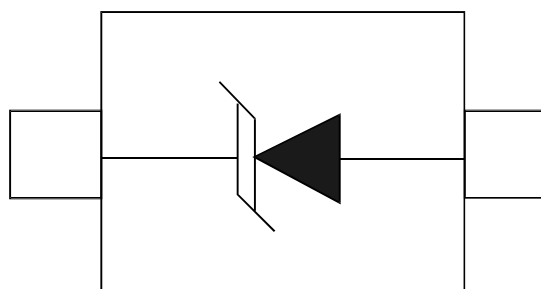
Mechanical Characteristics

- JEDEC SOD-523 package
- Molding compound flammability rating:
UL 94V-0
- Marking : Marking Code
- Packaging : Tape and Reel per EIA481
- RoHS Compliant

Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 players

Schematic & PIN Configuration



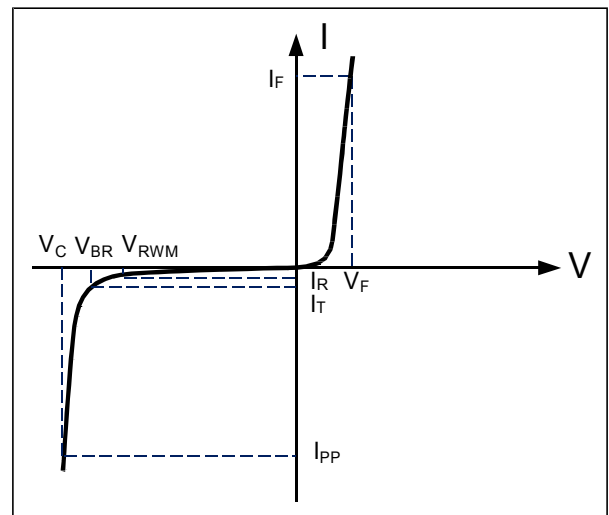
SOD-523 (Top View)

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	500	Watts
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{pp}	12	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 15 +/- 8	kV
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

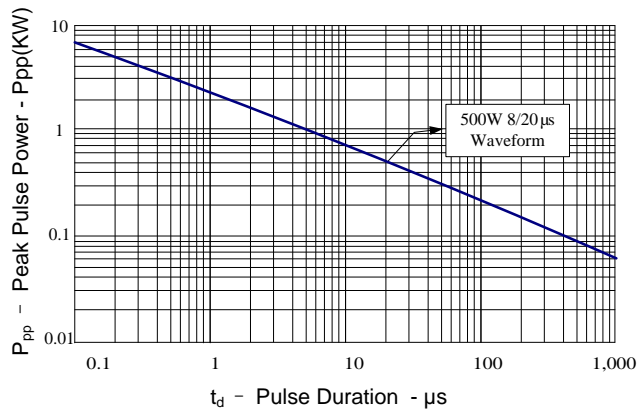
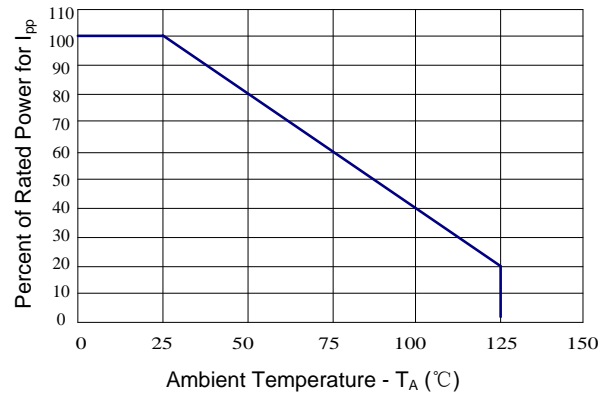
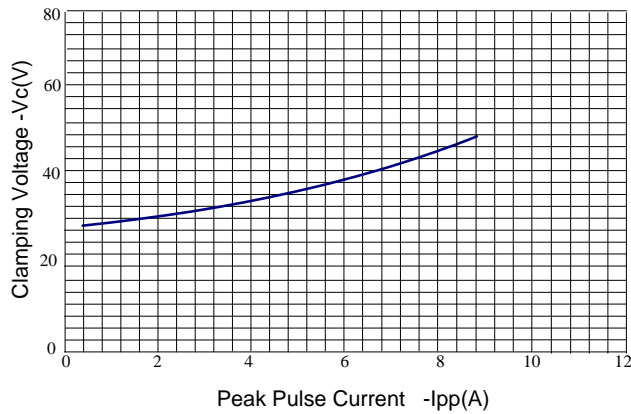
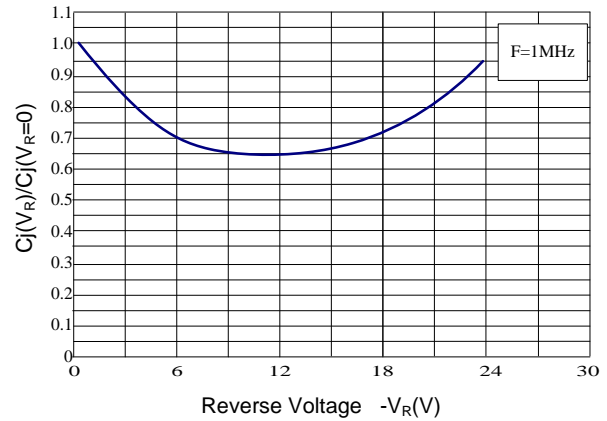
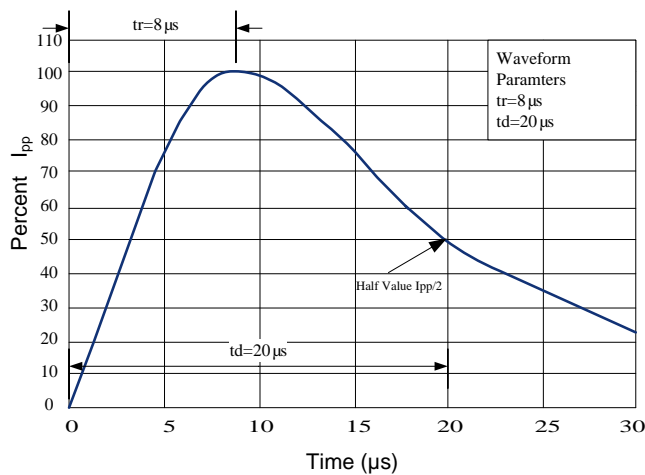
Electrical Parameters (T=25°C)

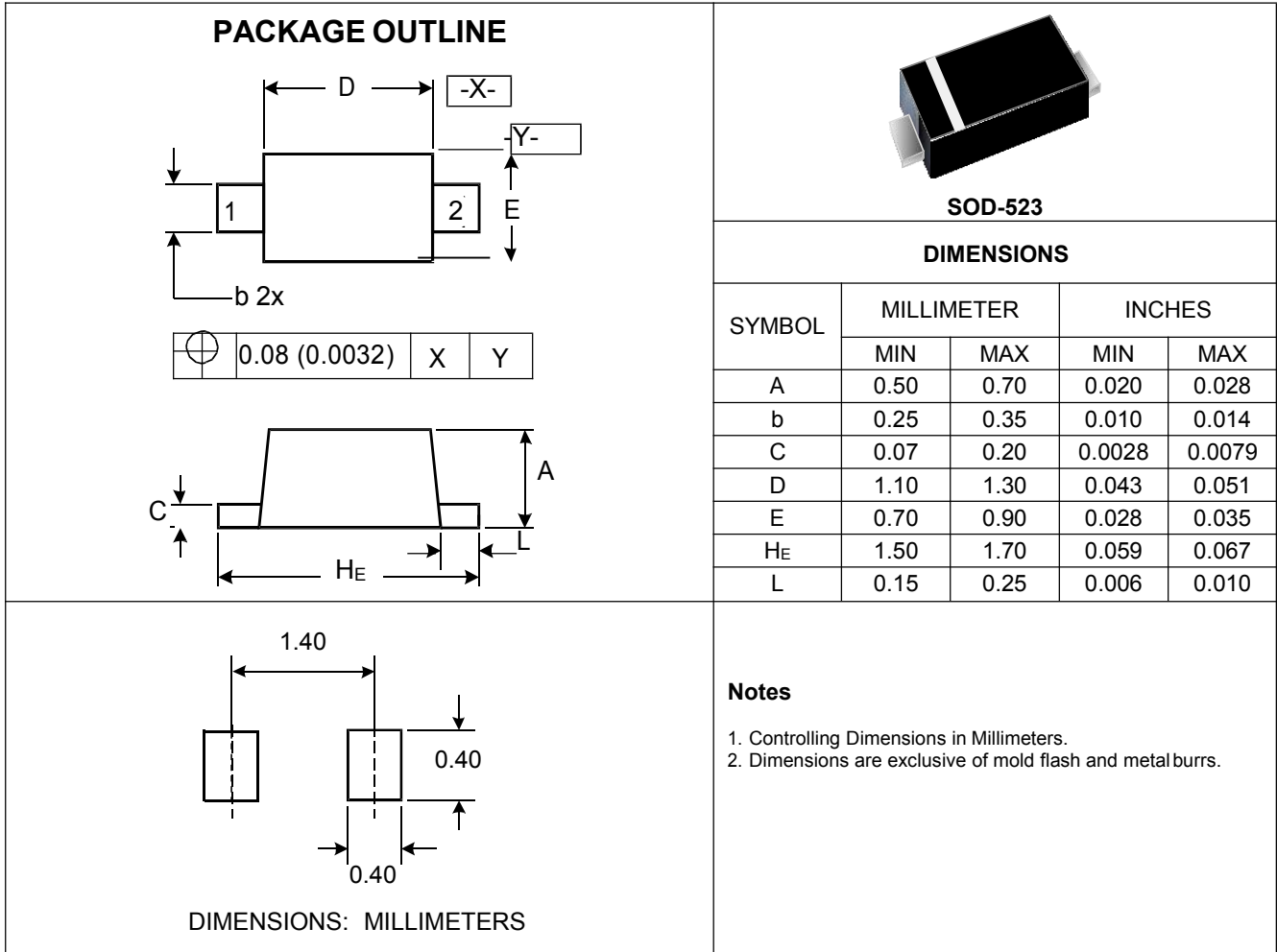
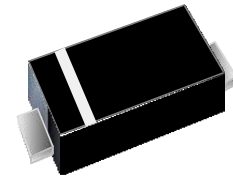
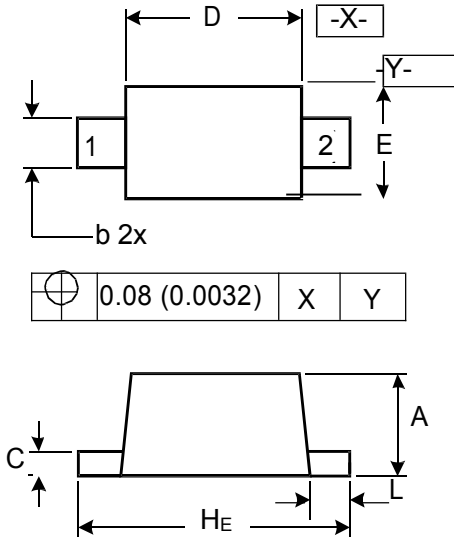
Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F


Electrical Characteristics

Part Number	Reverse Stand off Voltage V_{RWM} (Volts)	Minimum Breakdown Voltage $V_{BR}@1mA$ (Volts)	Maximum Clamping Voltage $V_C@I_{PP}$ (Volts)	Maximum Peak Pulse Current I_{pp} (Amps)	Maximum Reverse Leakage current $I_R@V_{RWM}(\mu A)$	Typical Capacitance DC=0V $C_J@1MHz$ (pF)
BSD5A121V35	12	13.3	35.0	12	1	50

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

Figure 2: Power Derating Curve

Figure 3: Clamping Voltage vs. Peak Pulse Current

Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

Figure 5: Pulse Waveform


Outline Drawing – SOD-523

PACKAGE OUTLINE


SOD-523

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

Notes

1. Controlling Dimensions in Millimeters.
2. Dimensions are exclusive of mold flash and metal burrs.

DIMENSIONS: MILLIMETERS

Marking Codes

Package Information

Qty: 5k/Reel

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