

Features

- Small Body Outline Dimensions:
0.063" x 0.032" (1.6x0.8 mm)
- Low Body Height: 0.024" (0.6 mm) Nom
- 100 Watts peak pulse power ($t_p = 8/20\mu s$)
- Protects one I/O or power line Replacement for MLV(0603)
- Low clamping voltage
- Working voltage: 5V
- Low leakage current
- Solid-state silicon-avalanche technology
- AEC-Q 101 qualified (Automotive grade with suffix " Q ")
- Exsemi technology



IEC COMPATIBILITY (IEC61000-4)

- IEC 61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 5.5A (8/20 μs)

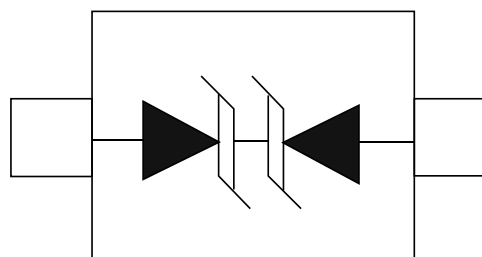
Mechanical Characteristics

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

Applications

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

Schematic & PIN Configuration

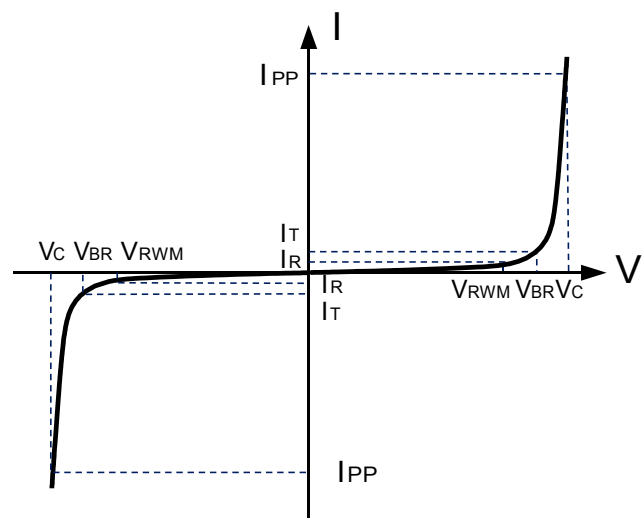


SOD-523 (Top View)

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	100	Watts
Maximum Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	5.5	A
Operating Temperature	T_J	-55 to + 125	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$

Electrical Parameters (T=25 $^{\circ}C$)

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
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

BSD5C051V						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM}=5V, T=25^{\circ}C$			1	μA
Clamping Voltage	V_C	$I_{PP}=5.5A, t_p=8/20\mu s$			15.5	V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$		10		pF

Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

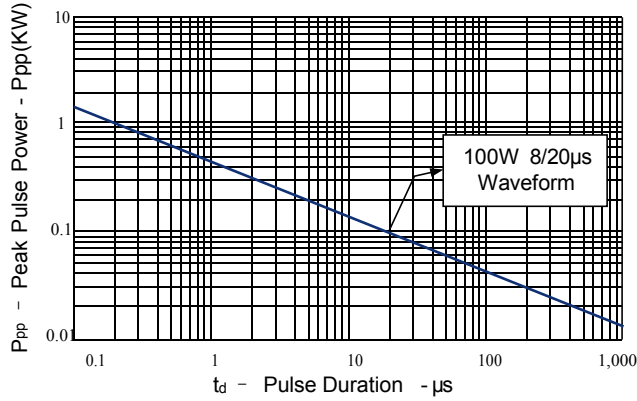


Figure 2: Power Derating Curve

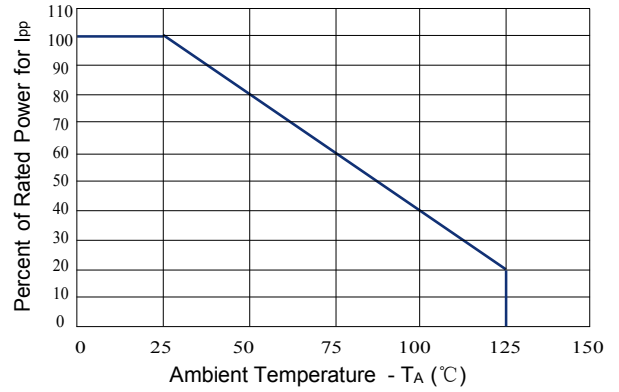


Figure 3: Clamping Voltage vs. Peak Pulse Current

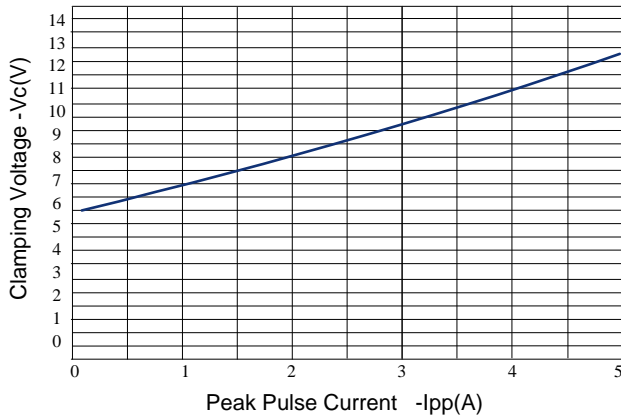


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

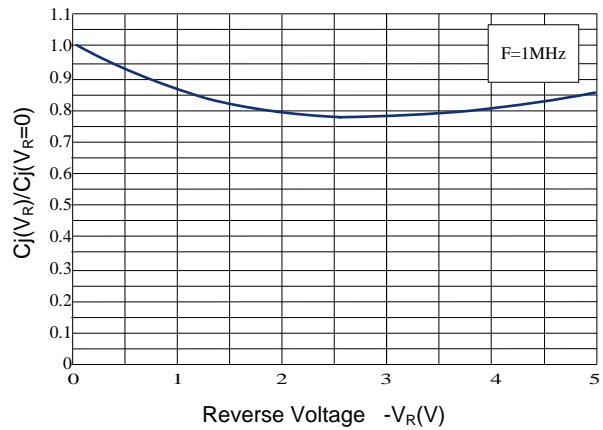


Figure 5: 8/20μs Pulse Waveform

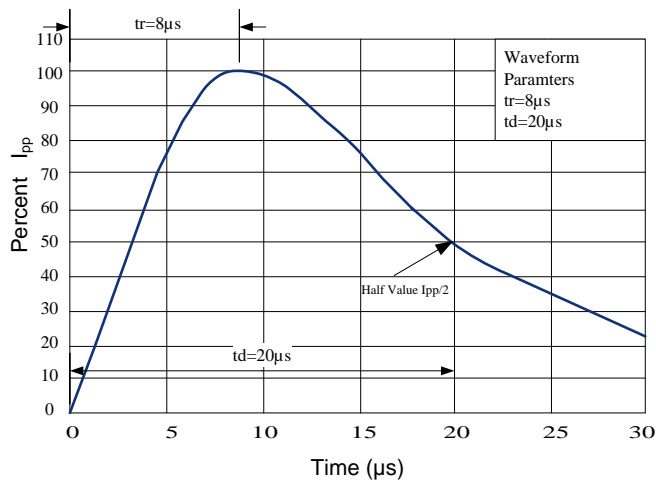
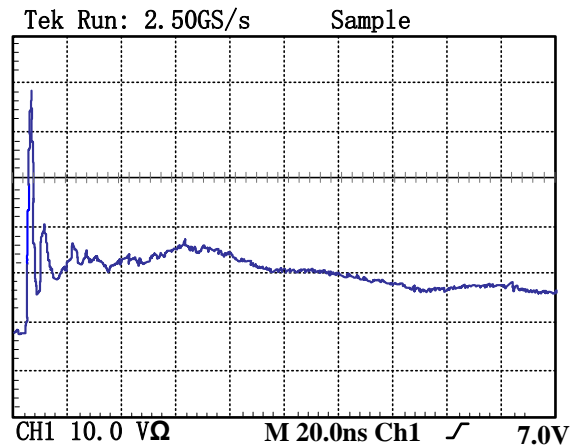
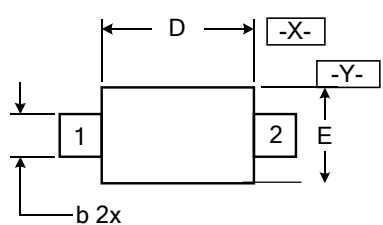
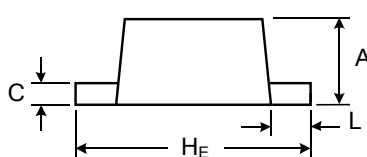
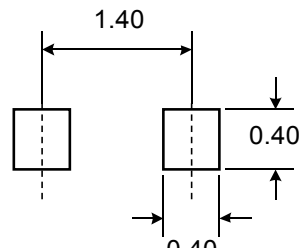


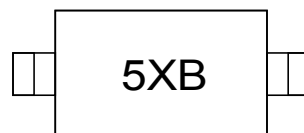
Figure 6: ESD Clamping(8kV Contact per IEC 61000-4-2)



OutlineDrawing–SOD-523

PACKAGE OUTLINE		MILLIMETER		INCHES	
	SOD-523				
	DIMENSIONS				
SYMBOL	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