

Transient Voltage Suppressor

Features

- Small Body Outline Dimensions: 0.059"x 0.026"(1.5 mm x 0.65 mm)Max
- Low Body Height: 0.026"(0.65 mm) Max
- Protects one line
- Working Voltage: 3.3 V
- Low Leakage Current
- Response Time is Typically < 1 ns



IEC COMPATIBILITY (EN61000-4)

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

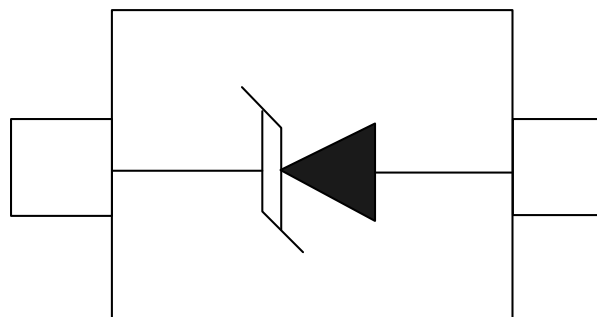
Mechanical Characteristics

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

Applications

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

Schematic & PIN Configuration

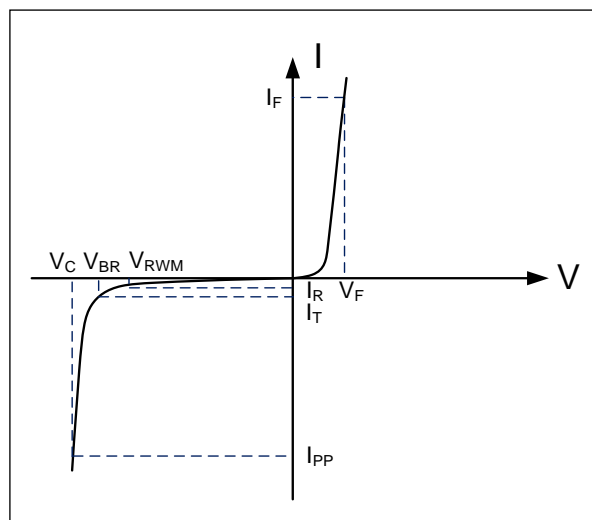


SOD-523 (Top View)

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	25	Watts
Peak Forward Voltage ($I_F = 1A, t_p = 8/20\mu s$)	V_{FP}	1.5	V
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +125	°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

WUHOI						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	4.0			V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3V, T = 25^\circ C$			0.5	μA
Peak Pulse Current	I_{PP}	$t_p = 8/20\mu s$			15	A
Clamping Voltage	V_C	$I_{PP} = 15A, t_p = 8/20\mu s$		15		V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$		110		pF

Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

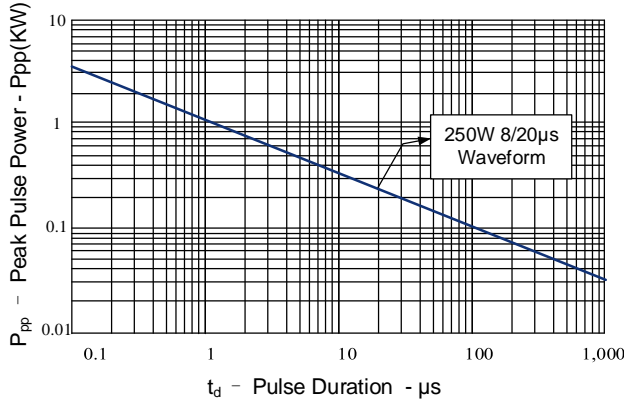


Figure 2: Power Derating Curve

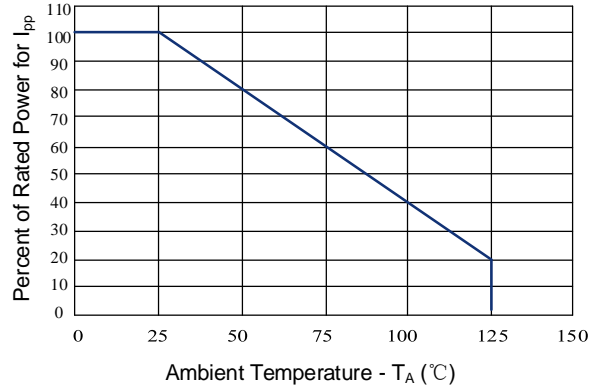


Figure 3: Clamping Voltage vs. Peak Pulse Current

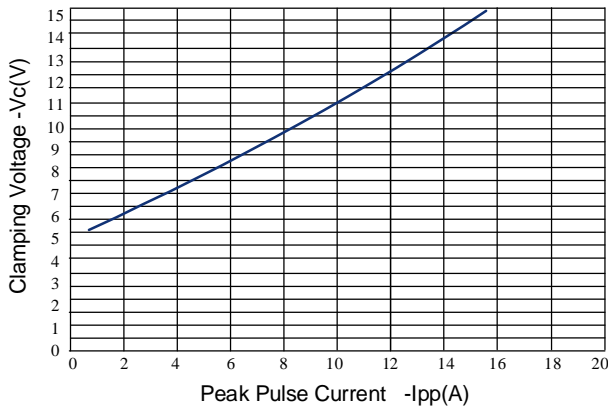


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

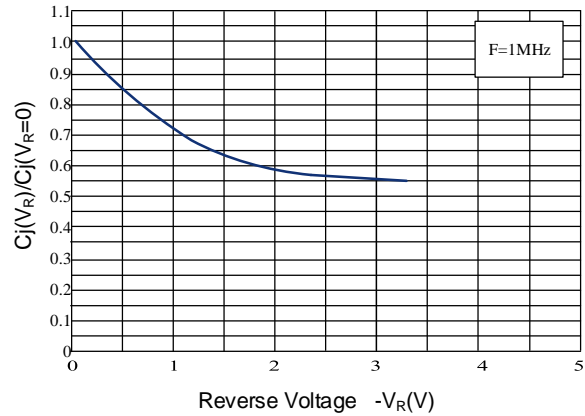


Figure 5: Pulse Waveform

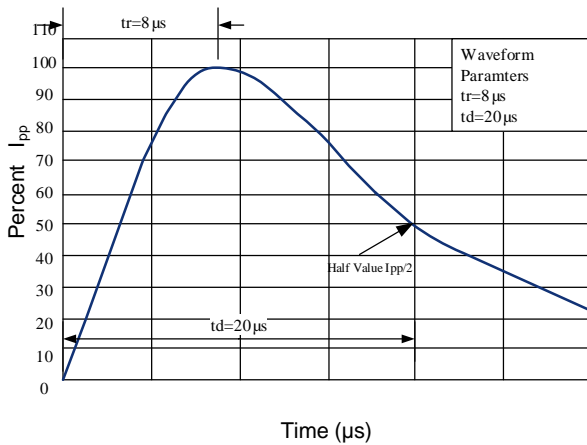
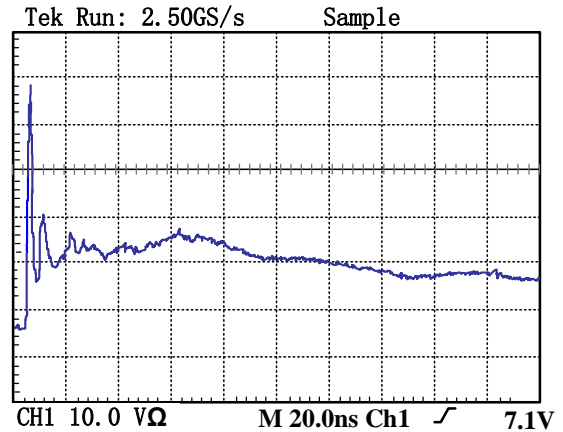


Figure 6: ESD Clamping (8kV Contact per IEC 61000-4-2)



Outline Drawing – SOD-523

<p>PACKAGE OUTLINE</p> <p style="text-align: center;"> <table border="1" style="margin: auto;"> <tr> <td style="text-align: center;">⊕</td> <td style="text-align: center;">0.08 (0.0032)</td> <td style="text-align: center;">X</td> <td style="text-align: center;">Y</td> </tr> </table> </p>	⊕	0.08 (0.0032)	X	Y	<p>SOD-523</p> <p style="text-align: center;">DIMENSIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">SYMBOL</th> <th colspan="2">MILLIMETE R</th> <th colspan="2">INCHES</th> </tr> <tr> <th>MIN</th> <th>MAX</th> <th>MIN</th> <th>MAX</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0.50</td> <td>0.70</td> <td>0.020</td> <td>0.028</td> </tr> <tr> <td>b</td> <td>0.25</td> <td>0.35</td> <td>0.010</td> <td>0.014</td> </tr> <tr> <td>C</td> <td>0.07</td> <td>0.20</td> <td>0.0028</td> <td>0.0079</td> </tr> <tr> <td>D</td> <td>1.10</td> <td>1.30</td> <td>0.043</td> <td>0.051</td> </tr> <tr> <td>E</td> <td>0.70</td> <td>0.90</td> <td>0.028</td> <td>0.035</td> </tr> <tr> <td>HE</td> <td>1.50</td> <td>1.70</td> <td>0.059</td> <td>0.067</td> </tr> <tr> <td>L</td> <td>0.15</td> <td>0.25</td> <td>0.006</td> <td>0.010</td> </tr> </tbody> </table>	SYMBOL	MILLIMETE R		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	HE	1.50	1.70	0.059	0.067	L	0.15	0.25	0.006	0.010
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Marking Codes

Part Number	VS03D5
Marking Code	D3

Package Information

Qty: 5k/Reel