

Transient Voltage Suppressor

Features

- 200 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- Protects one I/O or power line
- Low Clamping Voltage
- Working Voltage: 5 V
- Low Leakage Current
- Response Time is Typically < 1 ns



IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) ± 30 kV (air), ± 30 kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 12A (8/20 μs)

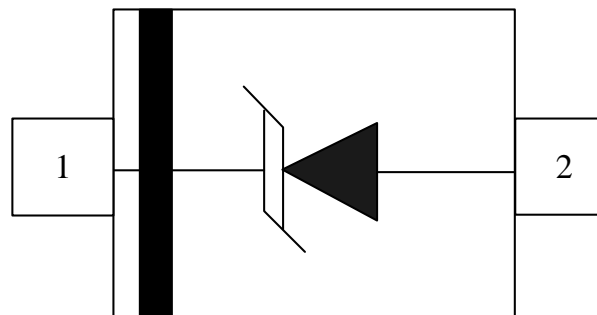
Mechanical Characteristics

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

Applications

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

Schematic & PIN Configuration

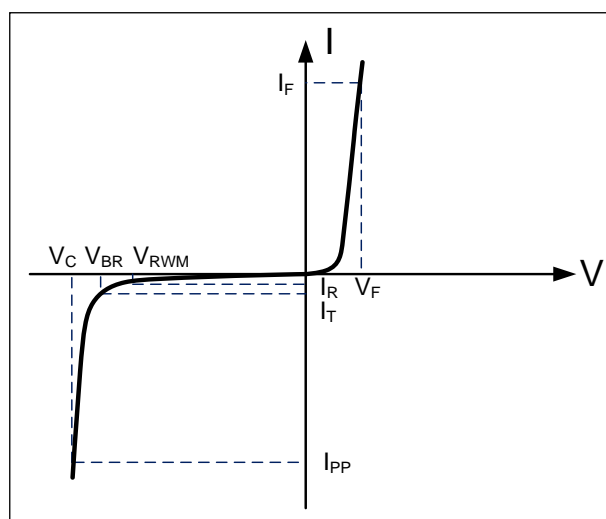


SOD-523 (Top View)

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P _{PP}	200	Watts
Peak Forward Voltage ($I_F = 1A, t_p = 8/20\mu s$)	V _{FP}	1.4	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	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

US05D5						
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°C			1	μA
Peak Pulse Current	I _{PP}	t _p = 8/20μs			12	A
Clamping Voltage	V _C	I _{PP} =1A, t _p =8/20μs			9.3	V
Clamping Voltage	V _C	I _{PP} =12A, t _p =8/20μs			17	V
Junction Capacitance	C _j	V _R = 0V, f = 1MHz			90	pF

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

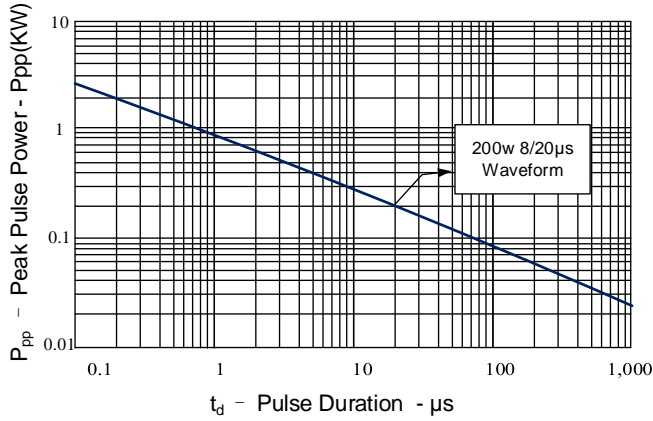


Figure 2: Power Derating Curve

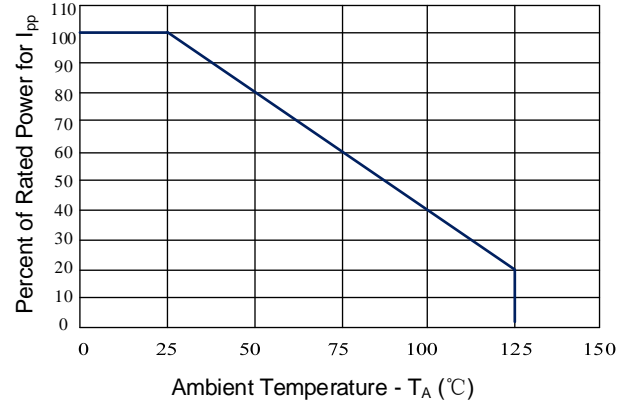


Figure 3: Clamping Voltage vs. Peak Pulse Current

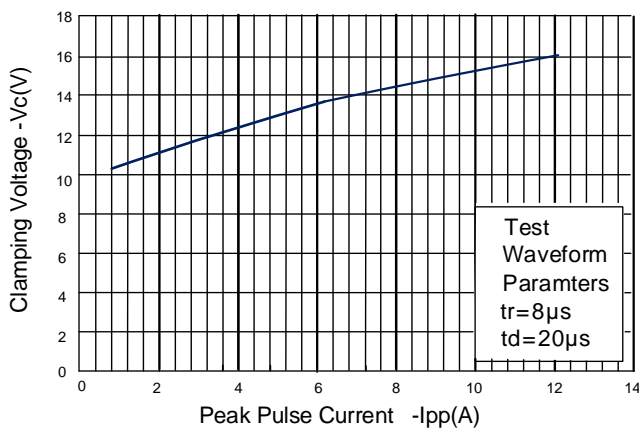


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

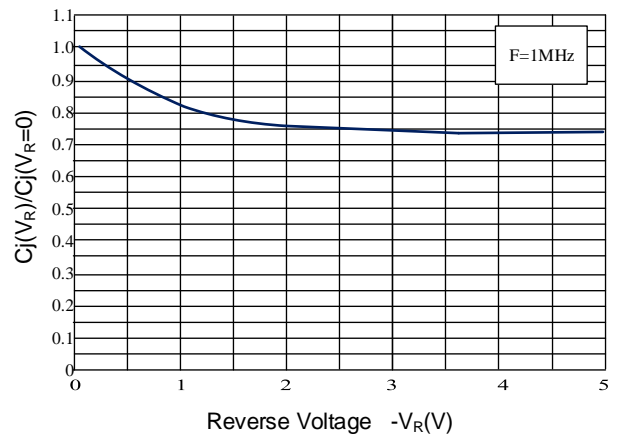


Figure 5: Pulse Waveform

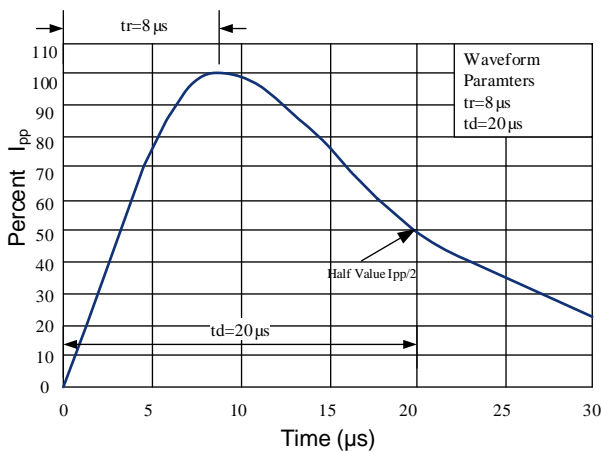
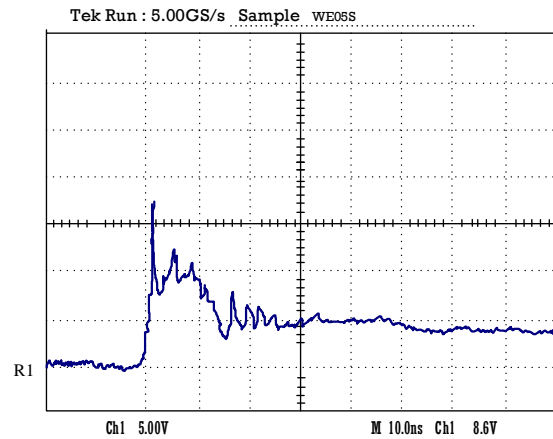
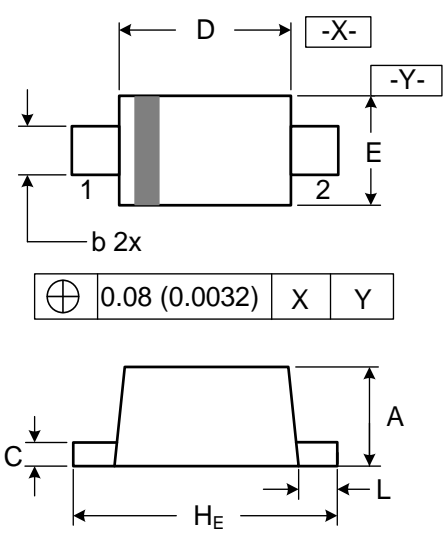
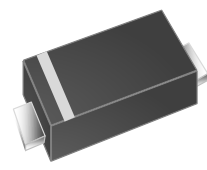
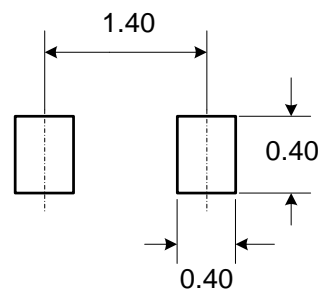


Figure 6: ESD Clamping(8kV Contact per IEC 61000-4-2)



Outline Drawing – SOD-523

<p style="text-align: center;">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 style="text-align: center;">SOD-523</p> <p style="text-align: center;">DIMENSIONS</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">SYMBOL</th> <th colspan="2">MILLIMETER</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>H_E</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	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
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Marking Codes

Part Number	US05D5
Marking Code	D5

Package Information

Qty: 5k/Reel