

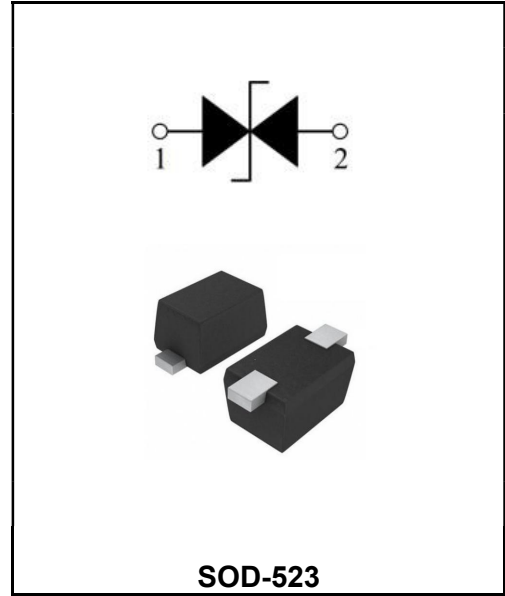
**Transient Voltage Suppressor**

**Features**

- ◆ 120 Watts Peak Pulse Power per Line (tp= 8/20μs)
- ◆ Replacement for MLV (0603)
- ◆ Protects one I/O or power line
- ◆ Low Clamping Voltage
- ◆ Working Voltage: 3.3 V
- ◆ Low Leakage Current
- ◆ Solid-state silicon-avalanche technology
- ◆ IEC 61000-4-2 ( ESD ) ±30 KV contact ±30 KV Air
- ◆ IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC 61000-4-5 (Lightning 8/20μs): 8A

**Application**

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



**Order Information**

Part Number	Package	Marking	Size (mm)	Delivery Form	Delivery Quantity
ESD3V3FBD523	SOD-523	5X*	1.6X0.8X0.6	7" T&R	3000PCS/Tape

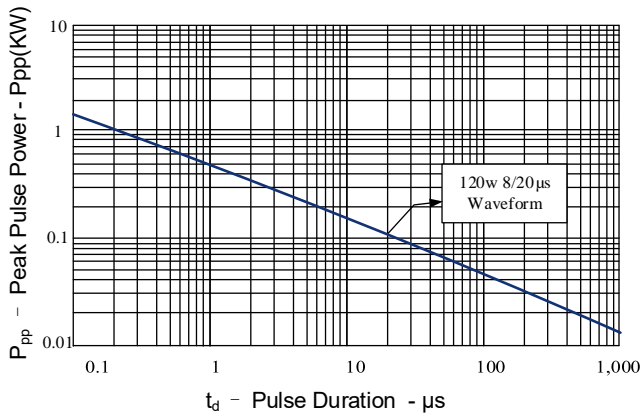
**Limiting Values(TA = 25 °C, unless otherwise specified)**

Symbol	Parameter	Conditions	value	Unit
P <sub>PP</sub>	Peak Pulse Power	tP = 8/20 μs	120	W
I <sub>PPM</sub>	Rated Peak Pulse Current	tP = 8/20 μs	8	A
T <sub>J</sub>	Junction Temperature	-	-55 to+125	°C
T <sub>stg</sub>	Storage Temperature Range	-	-55 to+125	°C

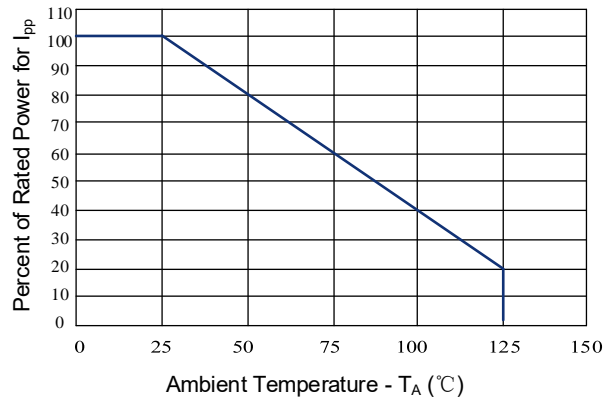
**Electrical Characteristics(TA = 25 °C unless otherwise specified)**

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V <sub>RWM</sub>	Reverse Stand-Off Voltage		-	-	3.3	V
V <sub>BR</sub>	Breakdown Voltage	I <sub>T</sub> = 1mA	3.7	-	-	V
I <sub>R</sub>	Reverse Leakage Current	V <sub>RWM</sub> = 3.3 V; TA = 25 °C	-	-	1	uA
V <sub>C</sub>	Clamping Voltage	I <sub>PP</sub> =1 A, tP =8/20μs	-	-	6.8	V
V <sub>C</sub>	Clamping Voltage	I <sub>PP</sub> =8 A, tP =8/20μs	-	9	-	V
C <sub>J</sub>	Junction Capacitance	V <sub>R</sub> = 0V, f = 1 MHz	-	15	-	pF

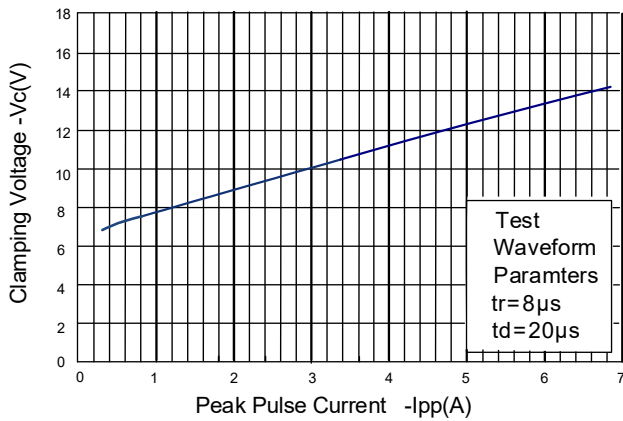
Typical Characteristics



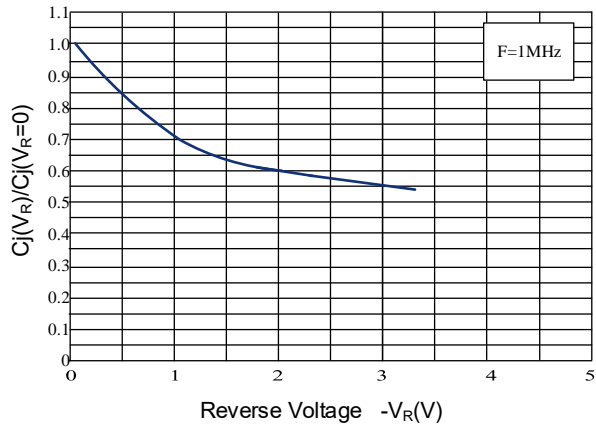
**Fig.1 Peak Pulse Power vs. Pulse Time**



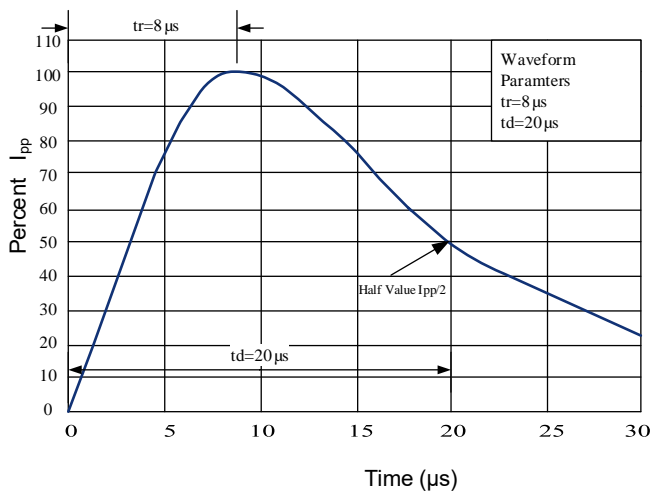
**Fig.2 Power Derating Curve**



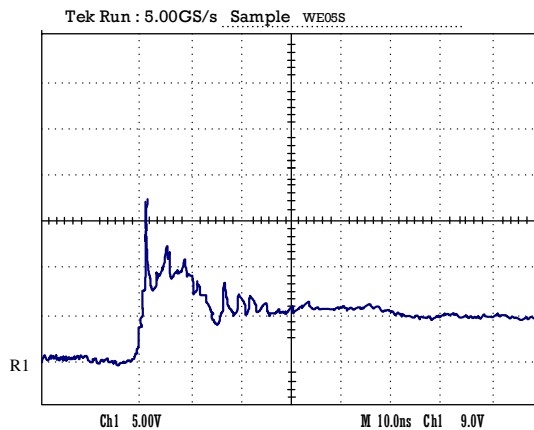
**Fig.3 Clamping Voltage vs. Peak Pulse Current**



**Fig.4 Normalized Junction Capacitance vs. Reverse Voltage**



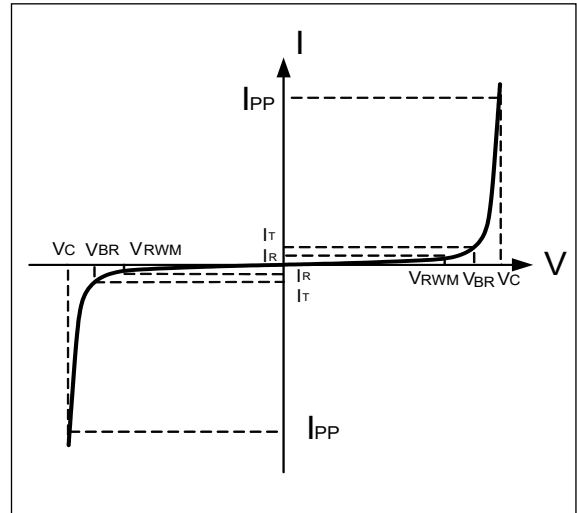
**Fig.5 Pulse Waveform**




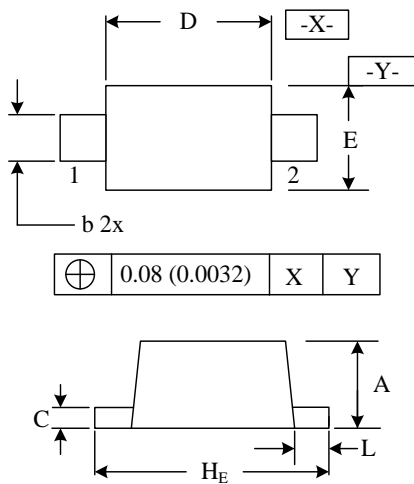
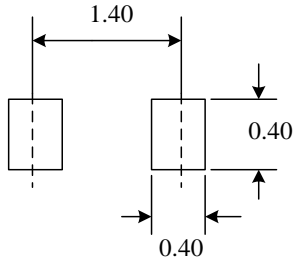
**Fig.6: ESD Clamping( 8kV Contact per IEC 61000-4-2)**

**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 @ $I_F$



Package Dimension

PACKAGE OUTLINE		 <b>SOD-523</b>			
		<b>DIMENSIONS</b>			
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 <sub>E</sub>	1.50	1.70	0.059	0.067	
L	0.15	0.25	0.006	0.010	
 <p style="text-align: center;">DIMENSIONS: MILLIMETERS</p>		<p><b>Notes</b></p> <p>1. Controlling Dimensions in Millimeters.</p> <p>2. Dimensions are exclusive of mold flash and metal burrs.</p>			