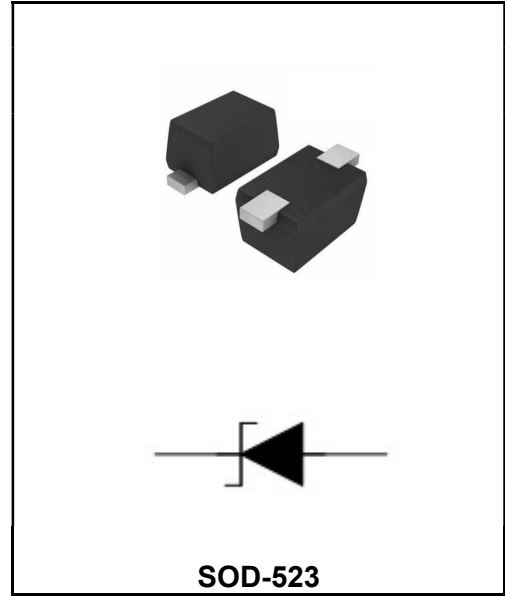


**Transient Voltage Suppressor**
**Features**

- ◆ 150 Watts Peak Pulse Power per Line (tp= 8/20us)
- ◆ Replacement for MLV(0603)
- ◆ Protects one I/O or power line
- ◆ Low Clamping Voltage
- ◆ Ultra Low Capacitance:0.5pF
- ◆ Working Voltage: 5 V
- ◆ Low Leakage Current
- ◆ Response Time is Typically < 1 ns
- ◆ IEC 61000-4-2 ( ESD ) ±8 KV contact ±15 KV Air
- ◆ IEC 61000-4-4 (EFT) 40A (5/50ns)

**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
ESD5VUD523	SOD-523	5U	1.5X0.65X0.65	7" T&R	3000PCS/Tape

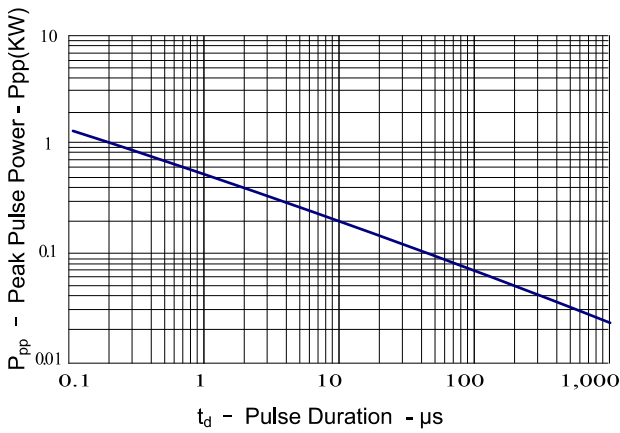
**Limiting Values(TA = 25 °C, unless otherwise specified)**

Symbol	Parameter	Conditions	value	Unit
P <sub>PP</sub>	Peak Pulse Power	tP = 8/20 μs	150	W
V <sub>FP</sub>	Peak Forward Voltage	IF=1 A, tP =8/20μs	1.4	V
T <sub>J</sub>	Junction Temperature	-	-55 to+125	°C
T <sub>stg</sub>	Storage Temperature Range	-	-55 to+150	°C

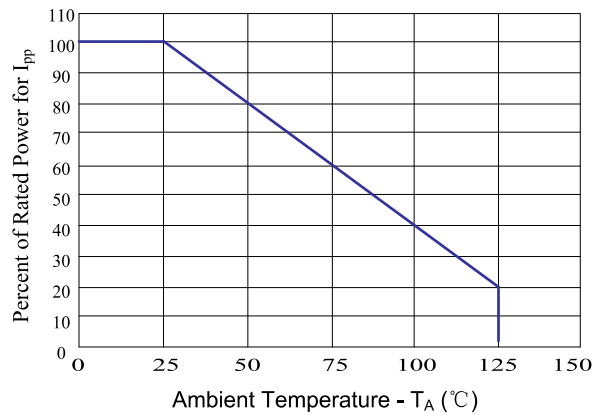
**Electrical Characteristics(TA = 25 °C unless otherwise specified)**

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V <sub>RWM</sub>	Reverse Stand-Off Voltage		-	-	5.0	V
V <sub>BR</sub>	Breakdown Voltage	IT = 1mA	6.0	-	-	V
I <sub>R</sub>	Reverse Leakage Current	VRWM = 5 V; TA = 25 °C	-	-	1	uA
I <sub>pp</sub>	Peak Pulse Current	tP =8/20μs	-	-	5	A
V <sub>C</sub>	Clamping Voltage	IPP=5 A, tP =8/20μs	-	8.5	13.5	V
C <sub>J</sub>	Junction Capacitance	VR = 0V, f = 1 MHz	-	0.5	0.8	pF

Typical Characteristics



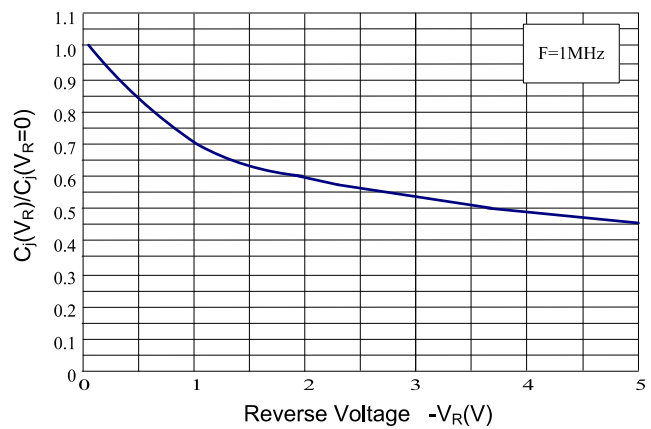
**Fig.1 Peak Pulse Power vs. Pulse Time**



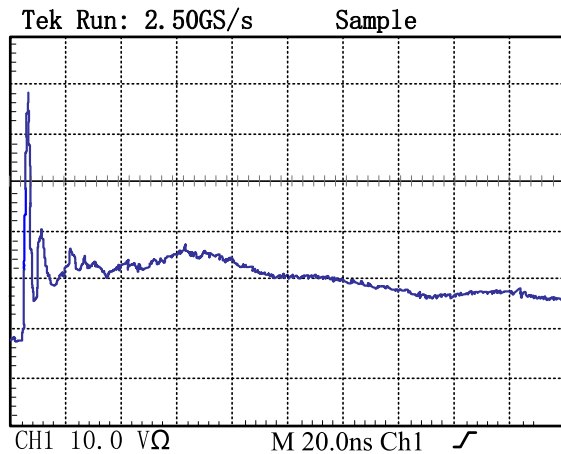
**Fig.2 Power Derating Curve**



**Fig.3: Insertion Loss**



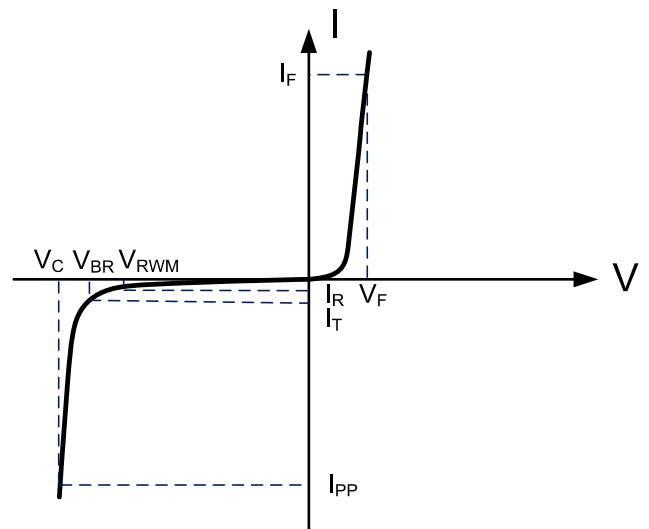
**Fig. 4 Normalized Junction Capacitance vs. Reverse Voltage**



**Fig 5: ESD Clamping( 8kV Contact per IEC 61000-4-2)**

Electrical Parameters (T=25°C)

Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Volage @ $I_{pp}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Working Peak 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**

⊕	0.08 (0.0032)	X	Y
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DIMENSIONS: MILLIMETERS

**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 <sub>E</sub>	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.