

Transient Voltage Suppressor

Features

- ◆100 Watts Peak Pulse Power per Line (tp= 8/20μs)
- ◆Protects one I/O or power line
- ◆Replacement for MLV (0603)
- ◆Low Clamping Voltage
- ◆Working Voltage: 5 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

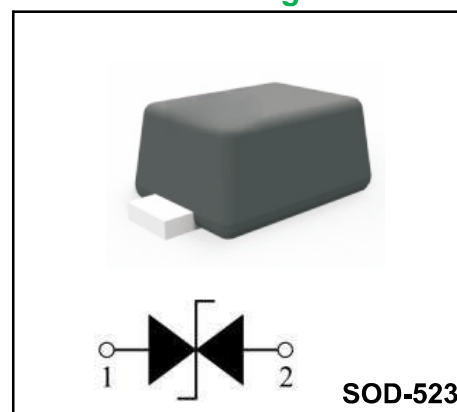
Limiting Values(TA = 25 °C, unless otherwise specified)

Symbol	Parameter	Conditions	value	Unit
P _{PP}	Peak Pulse Power	tP = 8/20 μs	100	W
I _{PPM}	Rated Peak Pulse Current	tP = 8/20 μs	8	A
V _{ESD}	ESD per IEC 61000-4-2 ESD per IEC 61000-4-2	(Air) (Contact)	30 30	KV
T _L	Lead soldering temperature		260(10seconds)	°C
T _J	Junction Temperature	-	-55 to+150	°C
T _{stg}	Storage Temperature Range	-	-55 to+150	°C

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

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V _{RWM}	Reverse Stand-Off Voltage		-	-	5.0	V
V _{BR}	Breakdown Voltage	IT = 1mA	5.6	-	7.4	V
I _R	Reverse Leakage Current	VRWM = 5 V; TA = 25 °C	-	-	0.1	uA
V _C	Clamping Voltage	IPP=8 A, tP =8/20μs	-	-	9.5	V
CJ	Junction Capacitance	VR = 0V, f = 1 MHz	-	15	-	pF

Pinning



Marking Code

ESD5VFBD523	5XB
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Typical Characteristics

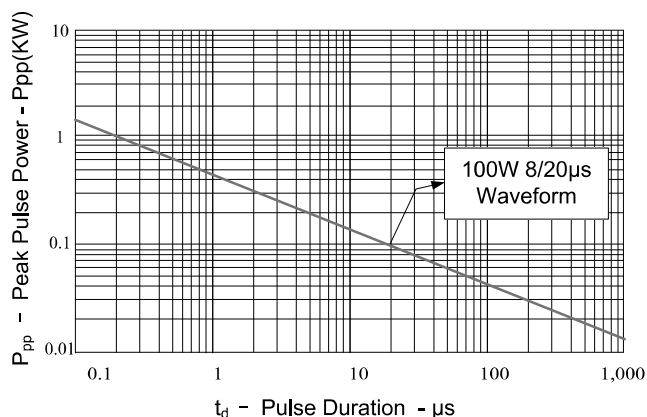


Fig.1 Peak Pulse Power vs. Pulse Time

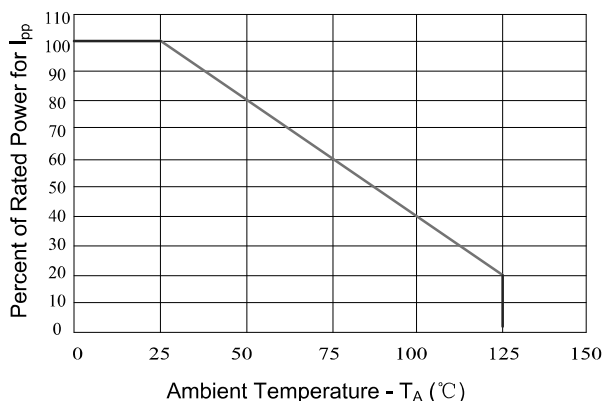


Fig.2 Power Derating Curve

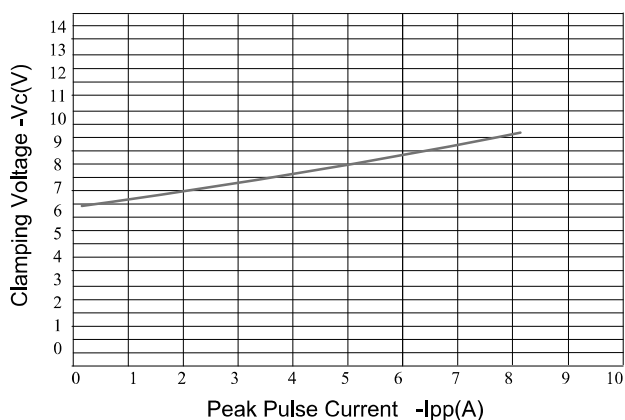


Fig.3 Clamping Voltage vs. Peak Pulse Current

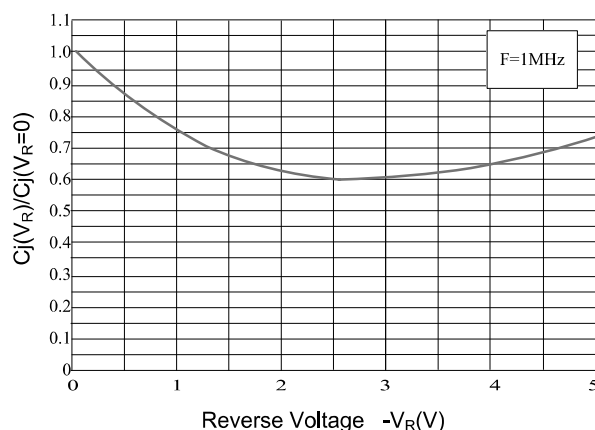


Fig. 4 Normalized Junction Capacitance vs. Reverse Voltage

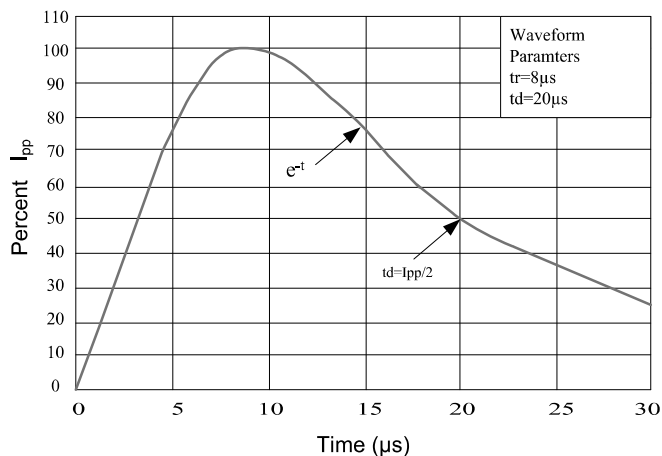


Fig.5 Pulse Waveform

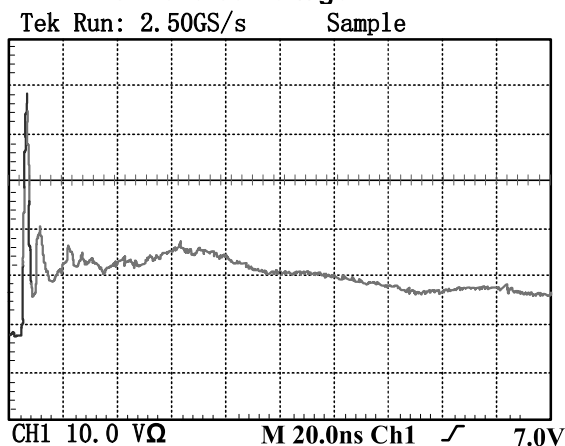
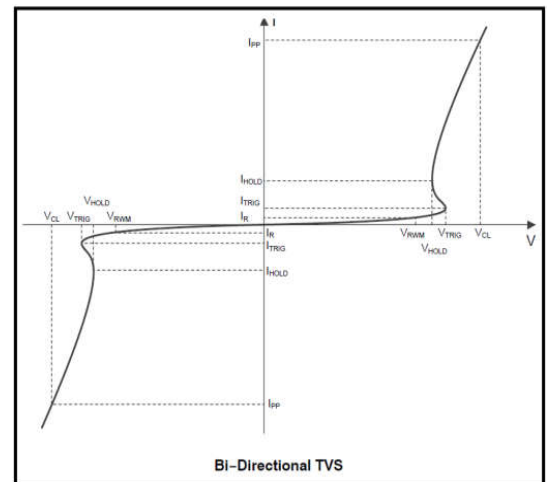


Fig 6: ESD Clamping(8kV Contact per IEC 61000-4-2)

Electrical Parameters (T=25°C)

Symbol	Parameter
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current
V_{CL}	Clamping Voltage
I_{PP}	Peak Pulse Current
V_{TRIG}	Reverse Trigger Voltage
I_{TRIG}	Reverse Trigger Current
V_{HOLD}	Reverse Holding Voltage
I_{HOLA}	Reverse Holding Current



Ordering information

Package	Packing Description	Packing Quantity
SOD-523	Tape/Reel, 7" reel	5000PCS/Reel 50000PCS/Carton

Package Dimensions

SOD-523

Top view of the component. Dimension A is the height of the main body. HE is the length of the main body. C is the thickness of the base. A note indicates 'ALL ROUND' for the corners.

Side view of the component. Dimension A is the height of the main body. E is the length of the main body. P is the radius of the top edge.

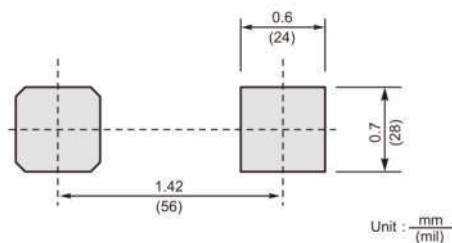
Bottom view of the component. Dimension D is the width of the main body. E is the length of the main body. e is the thickness of the base. L is the length of the base.

Bottom view of the component. Dimension N is the width of the main body. L is the length of the base.

底视图
bottom view

Dim.	Millimeter(mm)		mil	
	Min.	Max.	Min.	Max.
A	0.51	0.77	20	30
e	0.25	0.35	10	14
C	0.08	0.15	3	6
D	1.10	1.30	43	51
E	0.75	0.99	30	39
HE	1.50	1.70	59	67
N	0.35ref		14ref	
L	0.2ref		8ref	
P	R0.1 ALL ROUND		R4.0 ALL ROUND	
∠	10°			

The recommended mounting pad size



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