

Transient Voltage Suppressors

Features

- ♦2-pin lead-less package
- ♦Ultra low clamping voltage
- ♦Peak Pulse current (8/20 μ s) MAX : 8A
- ♦IEC61000-4-2 (ESD) $\pm$ 30kV (air), $\pm$ 30kV (contact)
- ♦Low leakage current
- ♦Working voltages:12V
- ♦RoHS Compliant

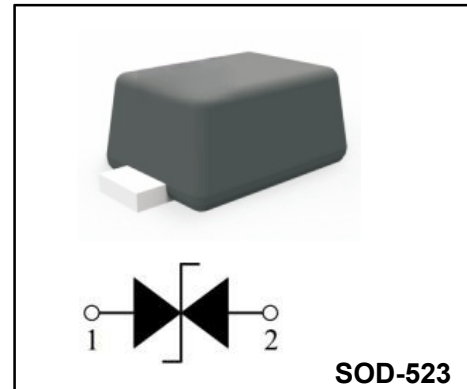
Mechanical Characteristics

- ♦Package: SOD-523
- ♦Lead Finish:Matte Tin
- ♦Case Material: "Green" Molding Compound.
- ♦UL Flammability Classification Rating 94V-0
- ♦Moisture Sensitivity: Level 3 per J-STD-020

Applications

- ♦Cellular Handsets and Accessories
- ♦Personal Digital Assistants
- ♦Notebooks and Handhelds
- ♦Portable Instrumentation
- ♦Digital Cameras
- ♦Peripherals
- ♦Audio Players
- ♦Keypads, Side Keys, LCD Displays

Pinning



SOD-523

Marking Code

ESD5Z12C	12C
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Absolute Maximum Ratings (T=25°C, RH=45%-75%, unless otherwise noted)

Parameters	Symbol	Value	Unit
ESD per IEC61000-4-2(Air) ESD per IEC61000-4-2(Contact)	V_{ESD}	$\pm$ 30 $\pm$ 30	kV
Peak Pulse Power (tp=8/20 μ s waveform)	P_{PP}	200	W
Peak Pulse current (8/20us)	I_{PP}	8	A
Maximum Junction temperature	T_J	-55-+125	°C
Storage temperature range	T_{STG}	-55-+150	°C

Electrical Characteristics (T=25°C, RH=45%-75%, unless otherwise noted)

Parameters	Test Condition	Symbol	Min	Typ	Max	Unit
Reverse Working Voltage		V_{RWM}	-	-	12	V
Reverse Breakdown Voltag	I _R =1mA	V_{BR}	12.6	-	16	V
Reverse Leakage Current	V _{RWM} =12V	I_R	-	-	0.2	uA
Clamping Voltage	I _{PP} = 1A, T _P =8/20us	V_C	-	-	22	V
Clamping voltage	I _{PP} = 8A, T _P =8/20us	V_C	-	-	25	V
Junction Capacitance	V _R =0V, f=1MHz	C_J	-	-	20	pF

Typical characteristics

FIG1: Power rating derating curve

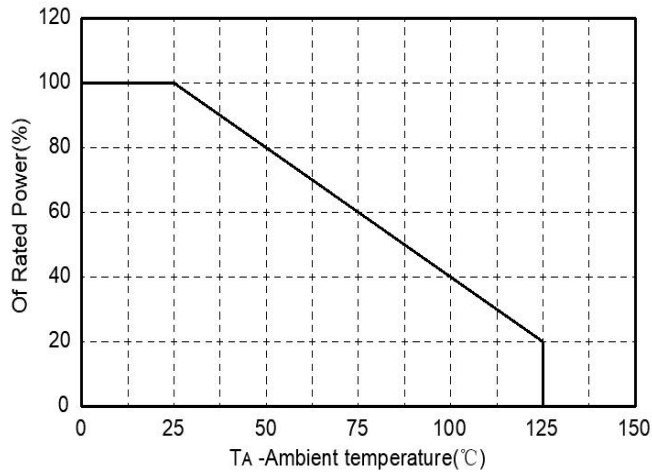


FIG2: pulse Waveform

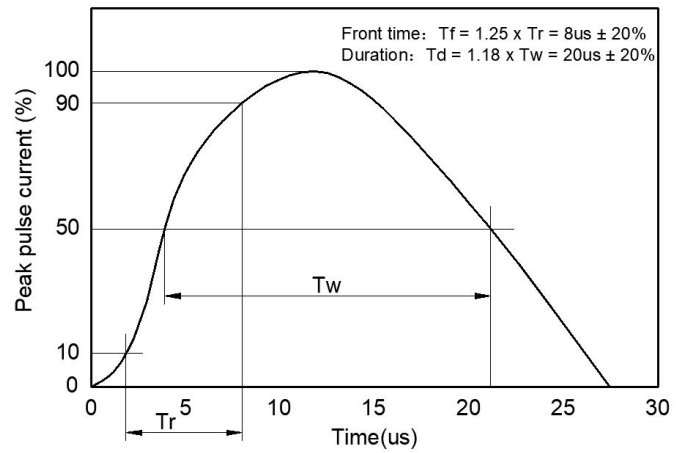


FIG3: Capacitance between terminals characteristics

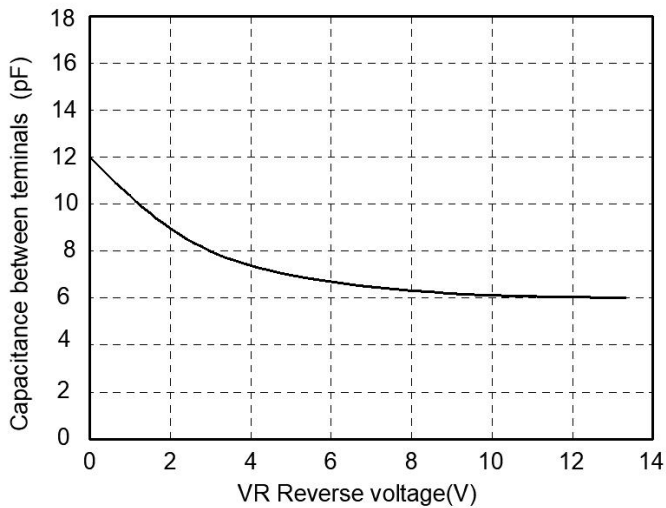
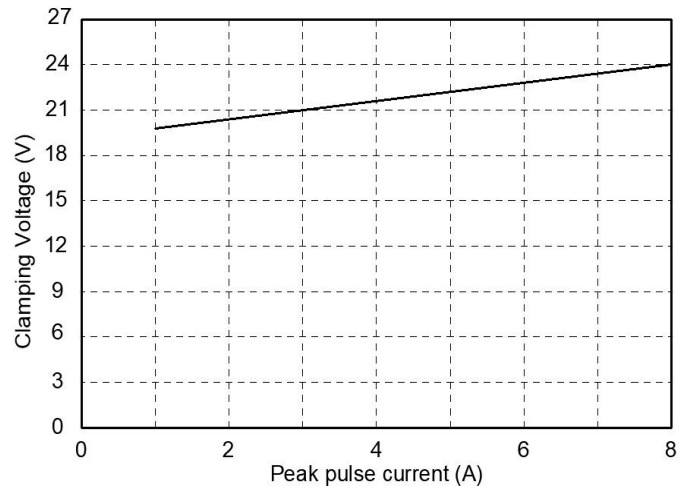


FIG4: Clamping Voltage vs. Peak Pulse Current



Ordering information

Package	Packing Description	Packing Quantity
SOD-523	Tape/Reel, 7" reel	3000PCS/Reel 120000PCS/Carton

Package Dimensions

SOD-523

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

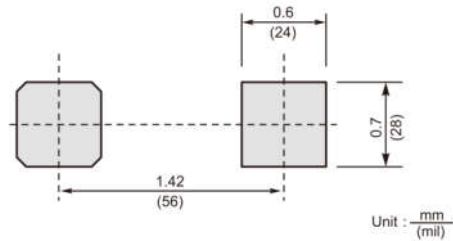
Side view of the component. Dimension A is the height. E is the width of the main body. P is the radius of the top corner.

Bottom view of the component. D is the width of the main body. E is the height of the main body. e is the height of the base. L is the width of the base.

Bottom view of the component. N is the width of the base. The label '底视图 bottom view' is present.

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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