

Transient Voltage Suppressor

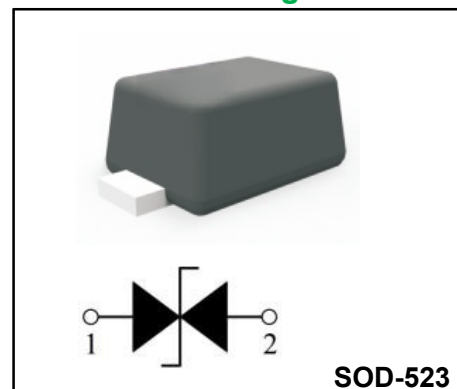
Features

- ◆ 120 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- ◆ 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 8/20 μs): 8A

Application

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

Pinning



SOD-523

Marking Code

ESD3V3FBD523

3XB

Limiting Values($T_A = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

Symbol	Parameter	Conditions	value	Unit
P_{PP}	Peak Pulse Power	$t_P = 8/20\text{ }\mu s$	120	W
I_{PPM}	Rated Peak Pulse Current	$t_P = 8/20\text{ }\mu s$	8	A
T_J	Junction Temperature	-	-55 to +125	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-	-55 to +125	$^{\circ}\text{C}$

Electrical Characteristics($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V_{RWM}	Reverse Stand-Off Voltage		-	-	3.3	V
V_{BR}	Breakdown Voltage	$I_T = 1\text{ mA}$	3.7	-	-	V
I_R	Reverse Leakage Current	$V_{RWM} = 3.3\text{ V}; T_A = 25\text{ }^{\circ}\text{C}$	-	-	1	μA
V_C	Clamping Voltage	$I_{PP} = 1\text{ A}, t_P = 8/20\mu s$	-	-	6.8	V
V_C	Clamping Voltage	$I_{PP} = 8\text{ A}, t_P = 8/20\mu s$	-	9	-	V
C_J	Junction Capacitance	$V_R = 0\text{ V}, f = 1\text{ MHz}$	-	15	-	pF

Typical Characteristics

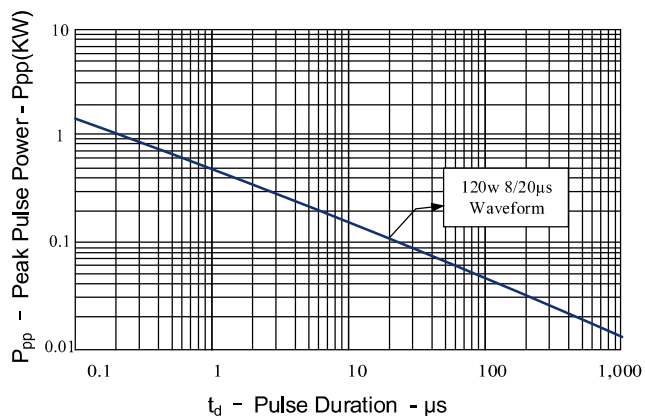


Fig.1 Peak Pulse Power vs. Pulse Time

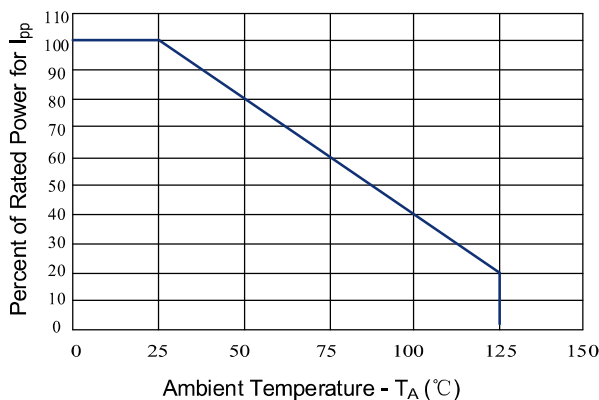


Fig.2 Power Derating Curve

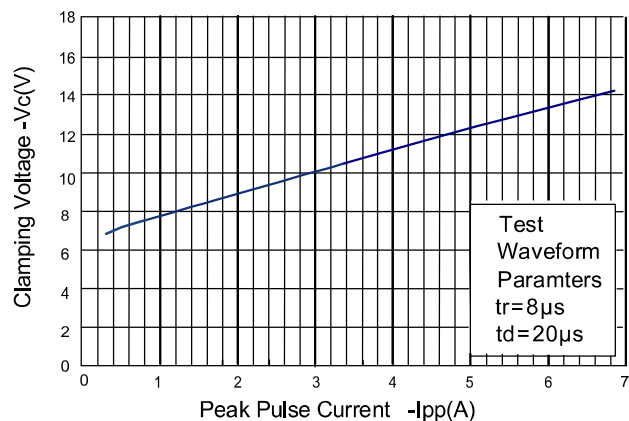


Fig.3 Clamping Voltage vs. Peak Pulse Current

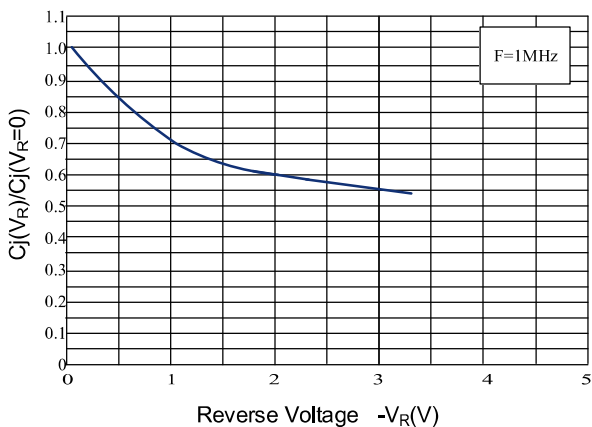


Fig. 4 Normalized Junction Capacitance vs. Reverse Voltage

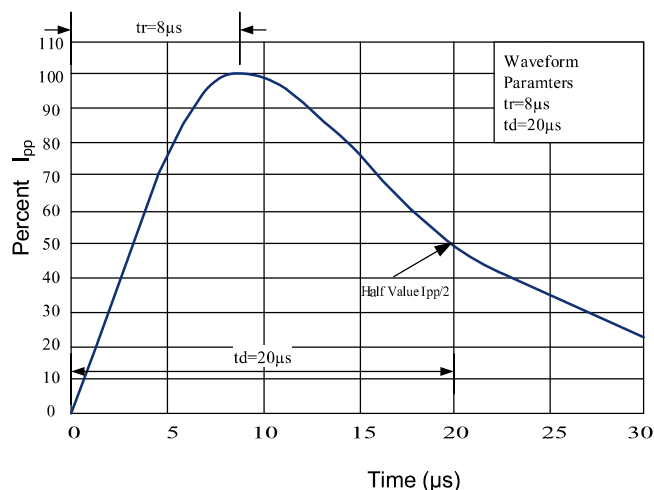


Fig.5 Pulse Waveform

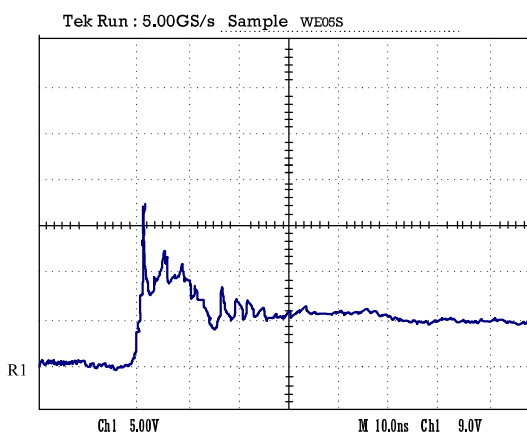
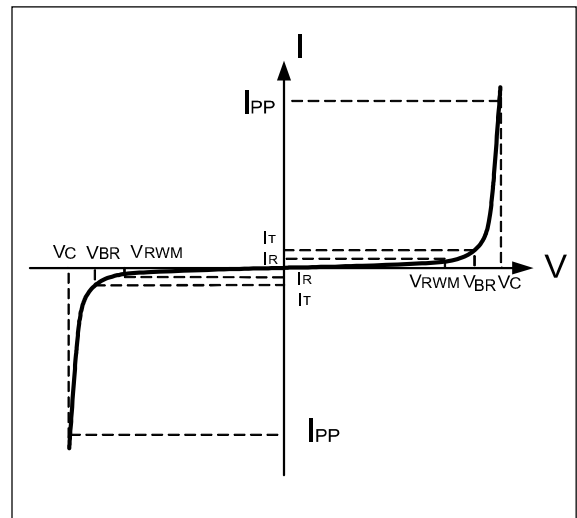


Fig 6: ESD Clamping(8kV Contact per IEC 61000-4-2)

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



Ordering information

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

Package Dimensions

SOD-523

Top view of a rectangular component with rounded corners. Dimension A is the height, HE is the total width, and C is the thickness. A note indicates "ALL ROUND" for the corners.

Side view of the component showing height A, width E, and a fillet radius P at the top edge.

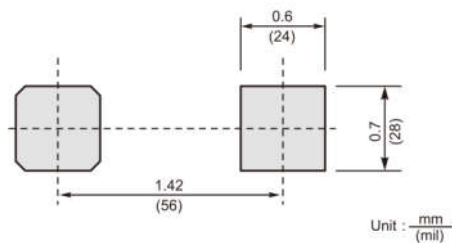
Bottom view of the component showing dimensions D (width), E (height), L (tab width), and e (tab thickness).

Bottom view of the component showing dimensions N (width) and N (height).

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



Disclaimer

The information presented in this document is for reference only. Guangdong Youfeng Microelectronics Co.,Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise. The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), YFW or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale. This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <https://www.yfwdiode.com>, or consult YFW sales office for further assistance.