

Transient Voltage Suppressor

FEATURES

- ◆300Watts peak pulse power ($t_p = 8/20\mu s$)
- ◆Solid-state silicon-avalanche technology
- ◆Low clamping voltage
- ◆Low leakage current
- ◆Protection one data/power line
- ◆IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
- ◆IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆IEC 61000-4-5 (Lightning)20A (8/20 μs)

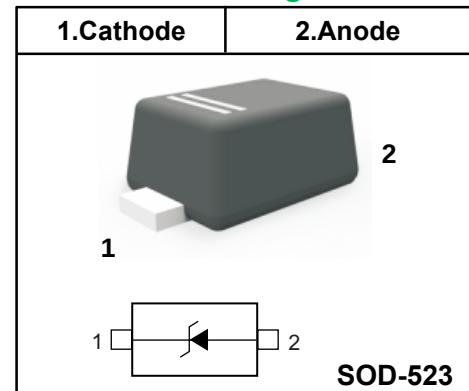
APPLICATION

- ◆Cell Phone Handsets and Accessories
- ◆Microprocessor based equipment
- ◆Personal Digital Assistants (PDA's)
- ◆Notebooks, Desktops, and Servers
- ◆Portable Instrumentation

Mechanical Data

- ◆SOD-523 package
- ◆Molding compound flammability rating: UL 94V-0
- ◆Packaging: Tape and Reel
- ◆RoHS/WEEE Compliant

Pinning



Marking Code

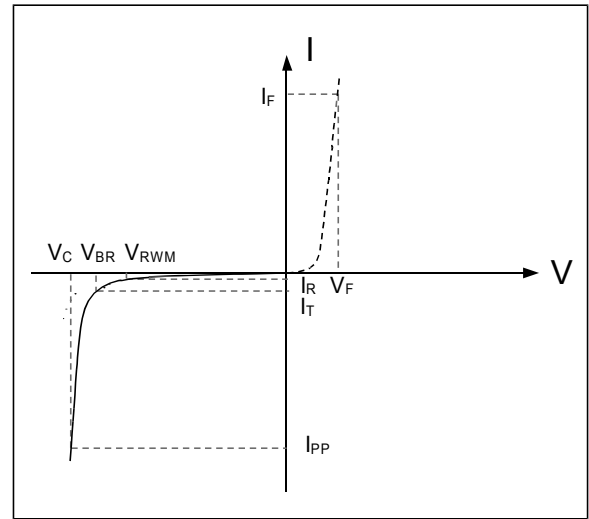
ESD3V3FD523	ZE
--------------------	-----------

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	300	W
Peak Pulse Current ($t_p = 8/20\mu s$)(note1)	I_{pp}	20	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	30 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{stg}	-55 to + 125	℃

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

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current

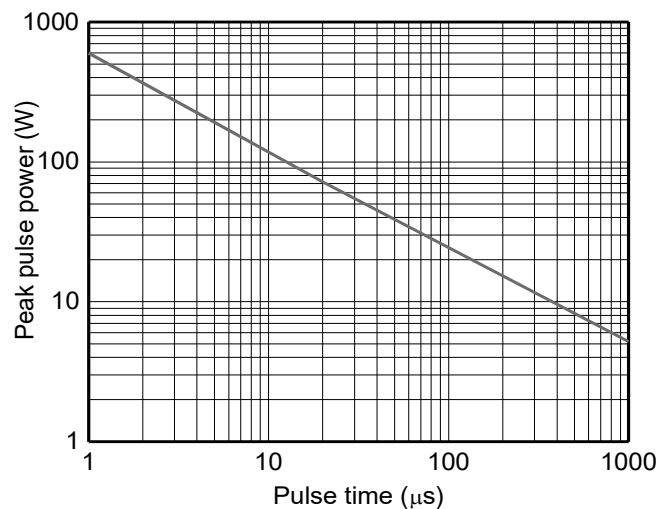


Note: 8/20 μs pulse waveform.

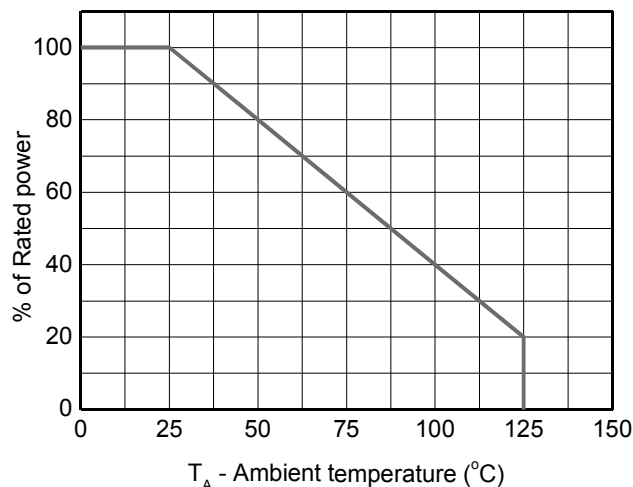
Electrical Characteristics

Parameter	Conditions	Symbol	Min	Typ	Max	Units
Reverse Stand-Off Voltage		V_{RWM}			3.3	V
Reverse Breakdown Voltage	$I_T=1\text{mA}$	V_{BR}	4.5			V
Reverse Leakage Current	$V_{RWM}=3.3\text{V}, T=25^\circ\text{C}$	I_R			0.5	μA
Peak Pulse Current	$t_p=8/20\mu\text{s}$	I_{PP}		20		A
Clamping Voltage	$I_{PP}=20\text{A}, t_p=8/20\mu\text{s}$	V_C		15		V
Junction Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	C_j		150		pF

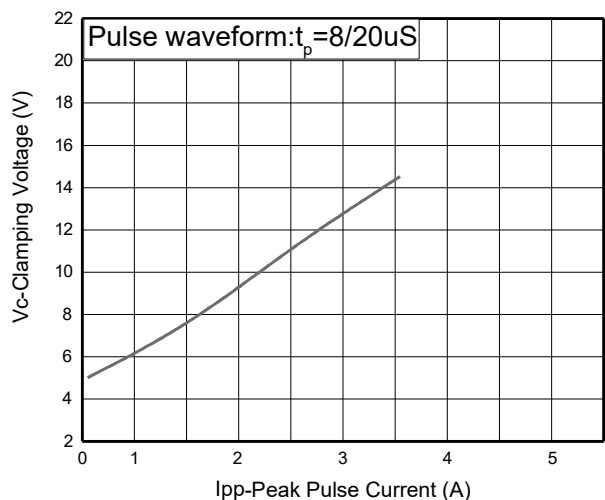
Typical Characteristics



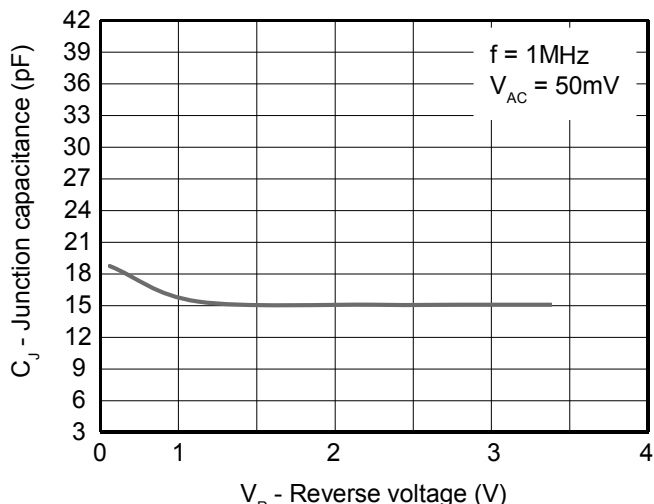
Non-repetitive peak pulse power vs. Pulse time



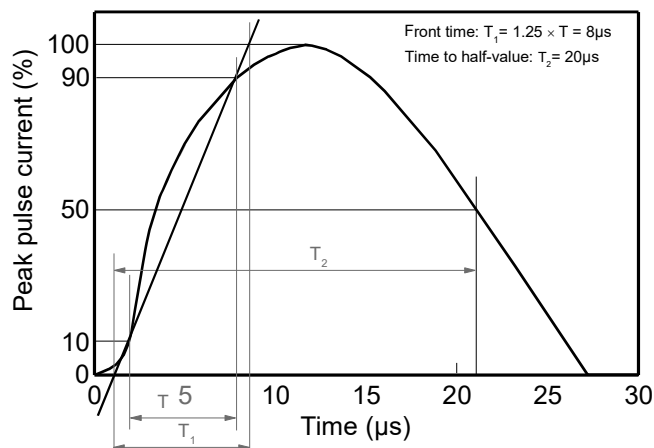
Power derating vs. Ambient temperature



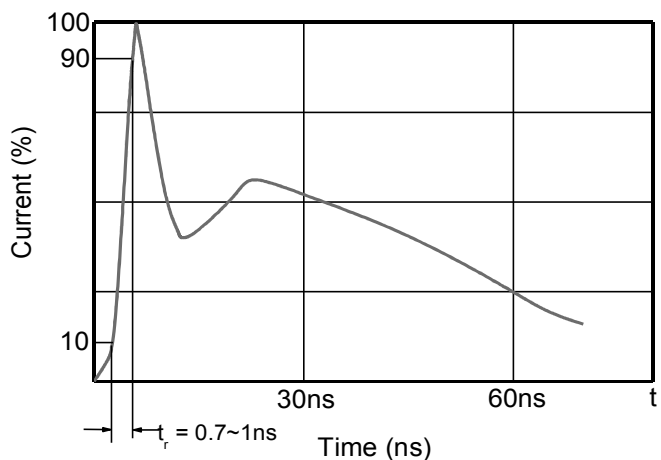
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage



8/20 μs waveform per IEC61000-4-5



Contact discharge current waveform per IEC61000-4-2

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 total width. C is the thickness of the side flange. 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 edge.

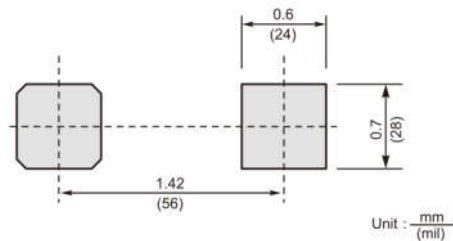
Bottom view of the component. Dimension D is the width of the main body. E is the height of the main body. e is the height of the side flange. L is the width of the side flange.

Bottom view of the component. Dimension N is the width of the side flange. L is the width of the side flange.

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.