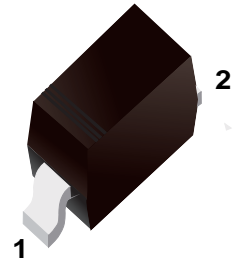


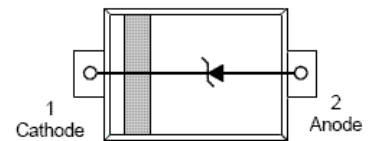
■ **Transient Voltage Suppressors for ESD Protection**

■ **Description**

The ESD3Z5.0 Series is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.



■ **Simplified outline(SOD-323)**



■ **Features**

- Small Body Outline Dimensions
- 250 Watts peak pulse power (tp = 8/20μs)
- Transient protection for data lines to  
**IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)**  
**IEC 61000-4-4 (EFT) 40A (5/50ns)**  
**IEC 61000-4-5 (Lightning) 24A (8/20μs)**
- Small package for use in portable electronics
- Suitable replacement for MLV's in ESD protection applications
- Protects one I/O or power line
- Low clamping voltage
- Working voltages: 5V and 12V
- Low leakage current

■ **Applications**

- Cellular Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants(PDA'S)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Pagers Peripherals

■ Absolute Maximum Ratings Ta = 25°C

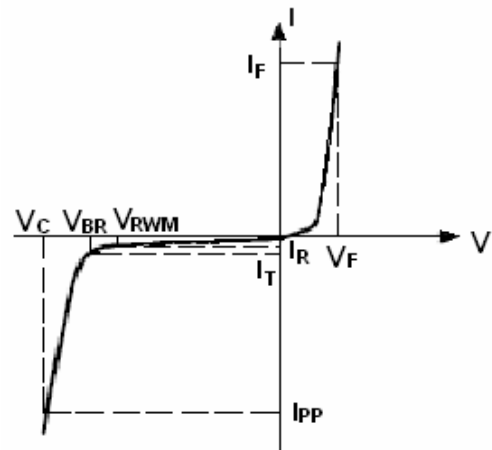
Symbol	Parameter	Value	Units
P <sub>PK</sub>	Peak Pulse Power (t <sub>p</sub> = 8/20μs)	250	W
V <sub>ESD</sub>	ESD Voltage(HBM Waveform per IEC 61000-4-2)	30	kV
T <sub>L</sub>	Maximum lead temperature for soldering during 10s	260	°C
T <sub>STG</sub>	Storage Temperature Range	-55 to +150	°C
T <sub>J</sub>	Maximum junction temperature	-55 to +125	°C

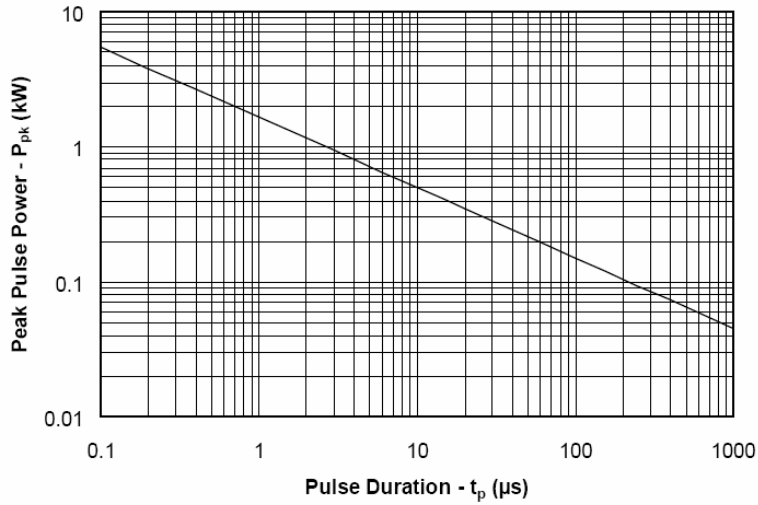
■ Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified. VF = 0.9V at IF = 10mA

Device	V <sub>RWM</sub> (V)	I <sub>R</sub> (uA) @ V <sub>RWM</sub> =5V	V <sub>BR</sub> (V)@ I <sub>t</sub> =1mA	V <sub>C</sub> (V) @ I <sub>PP</sub> =5 A t <sub>p</sub> =8/20μs	V <sub>C</sub> (V) @ I <sub>PP</sub> =24 t <sub>p</sub> =8/20μs	I <sub>PP</sub> (A) t <sub>p</sub> =8/20μs	C (pF)
	Max	Max	Min	Typ	Max	Max	Typ
ESD3Z5.0	5.0	10	6.0	9.8	10.5	24	350
ESD3Z12	12.0	1.0	13.3	19.0	16.5	15	150

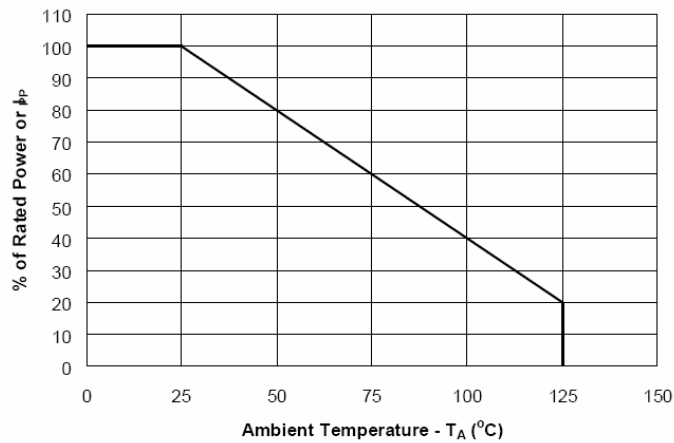
■ Electrical Parameter

Symbol	Parameter
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
V <sub>RWM</sub>	Working Peak Reverse Voltage
I <sub>R</sub>	Maximum Reverse Leakage Current @ V <sub>RWM</sub>
I <sub>T</sub>	Test Current
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>F</sub>	Forward Current
V <sub>F</sub>	Forward Voltage @ I <sub>F</sub>

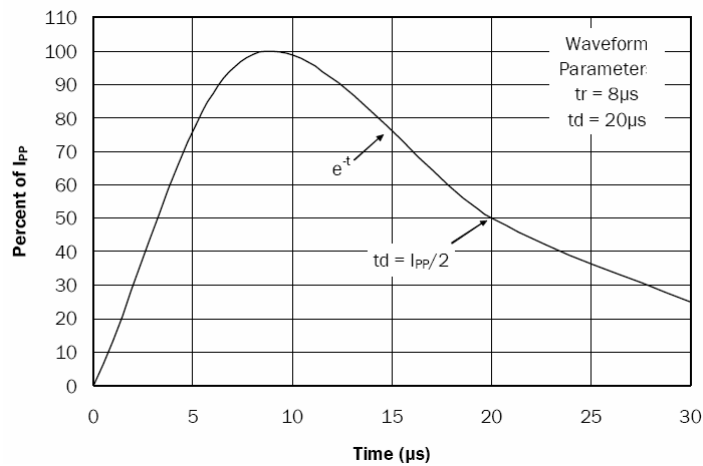




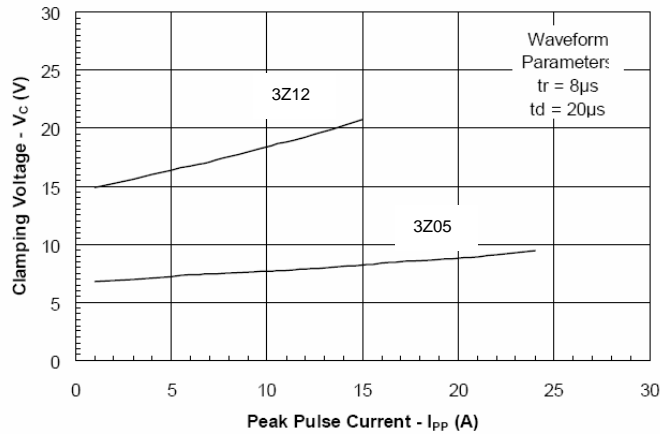
**Fig.1 Non-Repetitive Peak Pulse Power vs. Pulse Time**



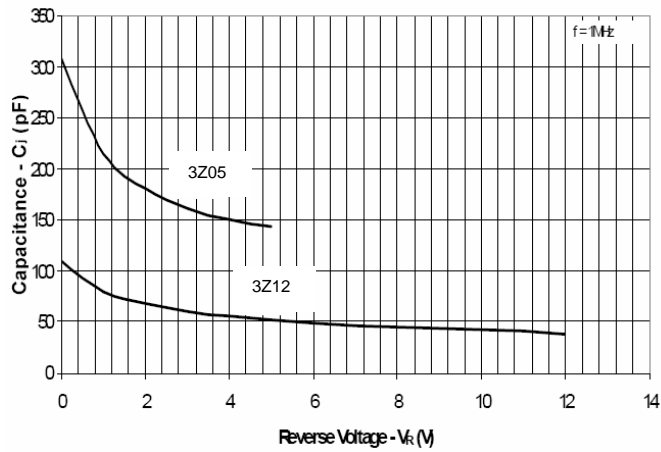
**Fig.2 Power Derating Curve**



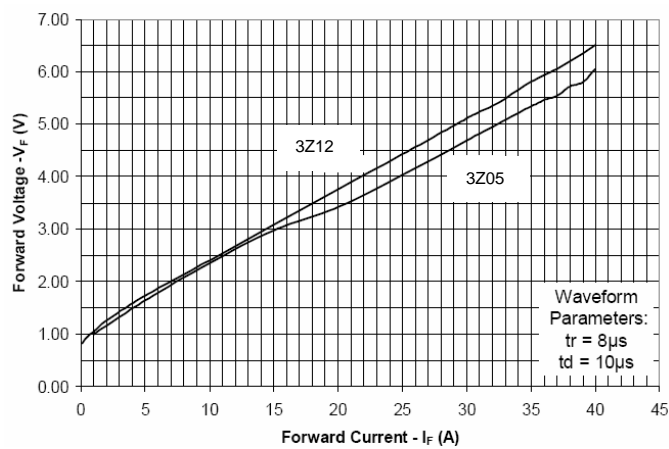
**Fig.3 Waveform**



**Fig.4 Clamping Voltage vs. Peak Pulse Current**



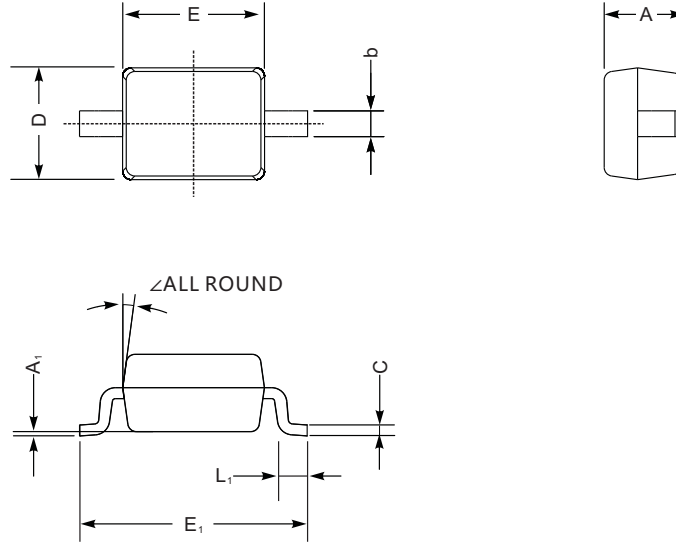
**Fig.5 Capacitance vs. Reverse Voltage**



**Fig.6 Forward Voltage vs. Forward Current**

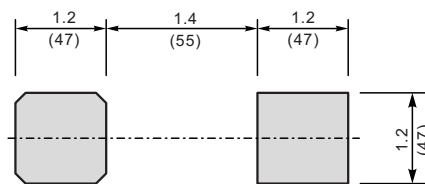
**Package Outline SOD-323**

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	E <sub>1</sub>	b	L <sub>1</sub>	A <sub>1</sub>	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	

**The recommended mounting pad size**



Unit:  $\frac{\text{mm}}{\text{mil}}$

**Summary of Packing Options**

Package	Packing Description	Packing Quantity	Industry Standard
SOD-323	Tape/Reel, 7" reel	3000	EIA-481-1