



DESCRIPTION

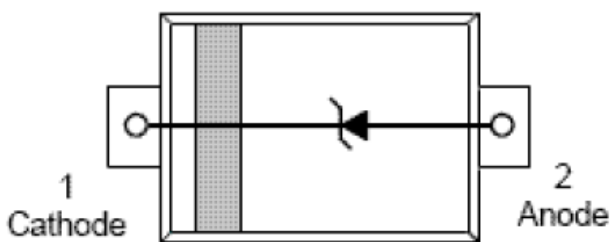
The ESD3Z5.0 Series is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

The ESD3Z5.0/ESD3Z12 is available in SOD-323 package

ORDERING INFORMATION

Package Type	Part Number
SOD-323	ESD3Z5.0
	ESD3Z12
Note	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION



FEATURES

- Small Body Outline Dimensions
- 250 Watts peak pulse power ($t_p = 8/20\mu s$)
- Transient protection for data lines to IEC 61000-4-2 (ESD) $\pm 15kV$ (air), $\pm 8kV$ (contact) IEC 61000-4-4 (EFT) 40A (5/50ns) IEC 61000-4-5 (Lightning) 24A (8/20 μs)
- 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
- Solid-state silicon-avalanche technology
- Available in SOD-323 package

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

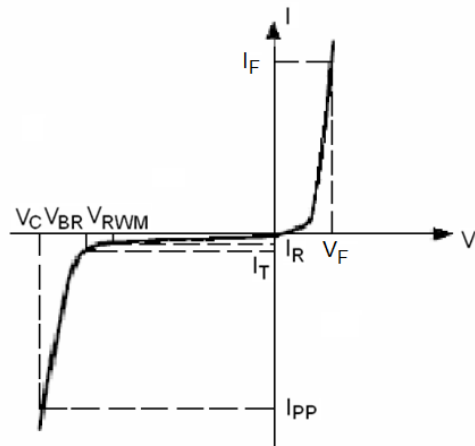
T_{amb}=25°C

P _{PK} , Peak Pulse Power (t _P = 8/20μs)	250W
V _{ESD} , ESD Voltage(HBM Waveform per IEC 61000-4-2)	30kV
T _L , Maximum Lead Temperature for Soldering During 10s	260°C
T _{STG} , Storage Temperature Range	-55°C~+150°C
T _J , Maximum Junction Temperature	-55°C~+125°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL PARAMETER

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}
I _T	Test Current
V _{BR}	Breakdown Voltage @ I _T
I _F	Forward Current
V _F	Forward Voltage @ I _F



ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. V_F = 0.9V at I_F = 10mA

Part Number	V _{RWM} (V)	I _R (μA) @ V _{RWM} =5V	V _{BR} (V) @ I _T =1mA	V _C (V) @ I _{PP} =5A t _P =8/20μs	V _C (V) @ I _{PPMAX} t _P =8/20μs	I _{PP} (A) t _P =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



TYPICAL CHARACTERISTICS

Figure1. Non-Repetitive Peak Pulse Power vs. Pulse Time

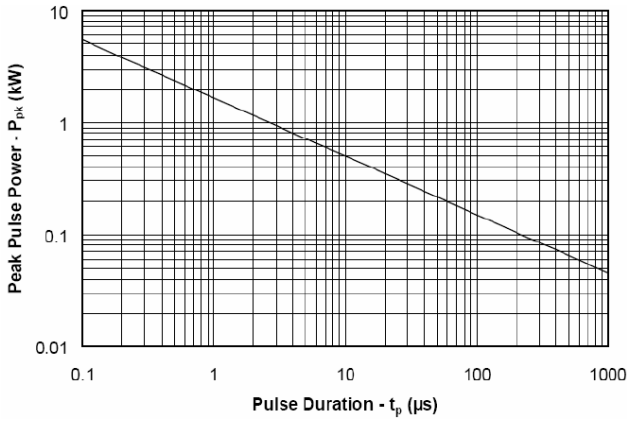


Figure 2. Power Derating Curve

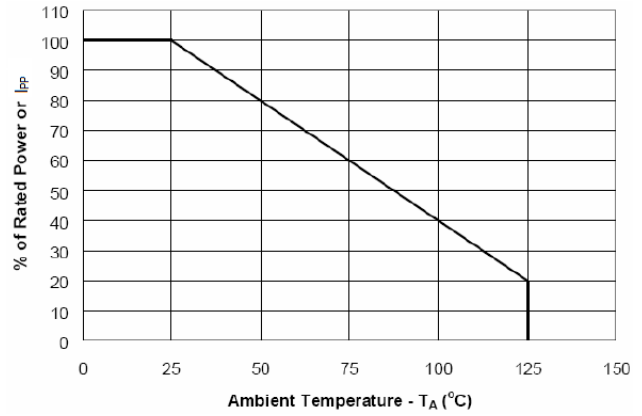


Figure3. Waveform

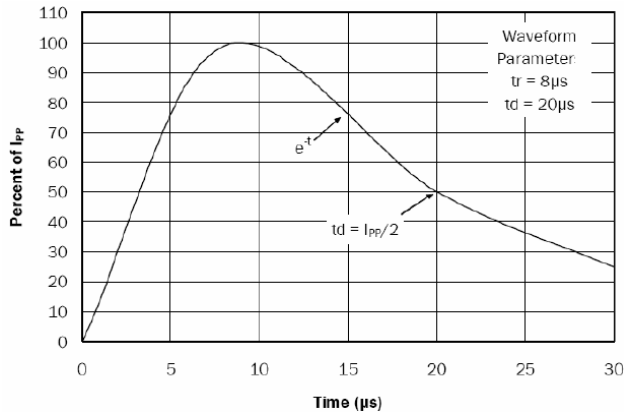


Figure4. Clamping Voltage vs. Peak Pulse Current

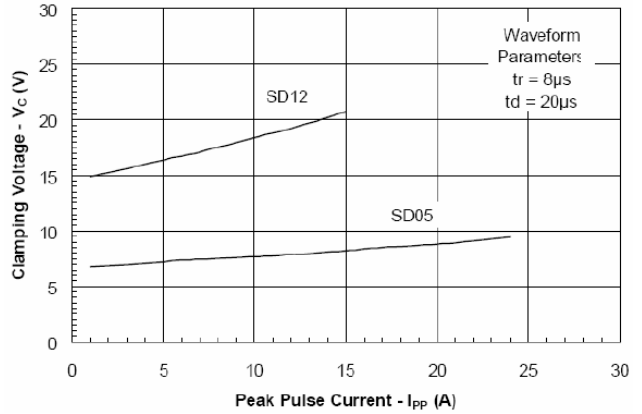


Figure5. Capacitance vs. Reverse Voltage

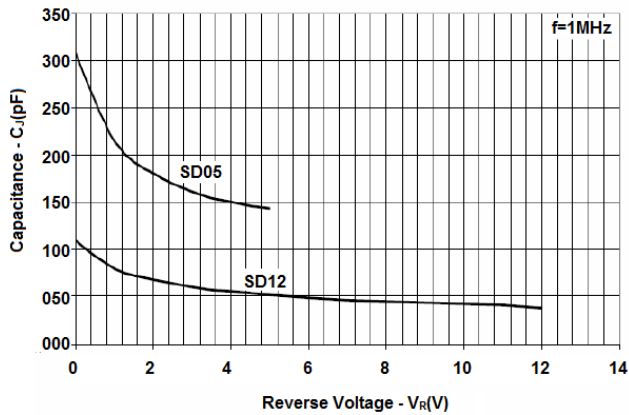
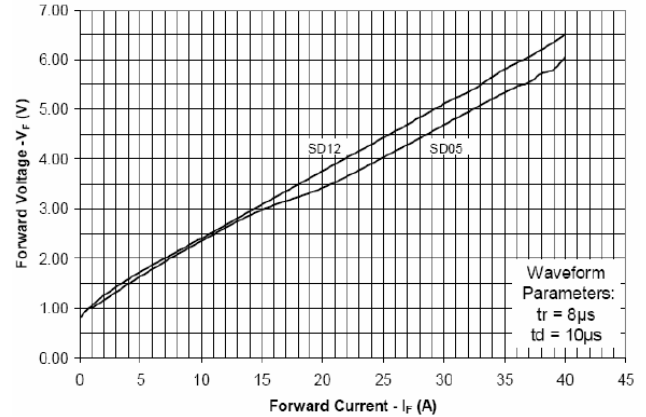


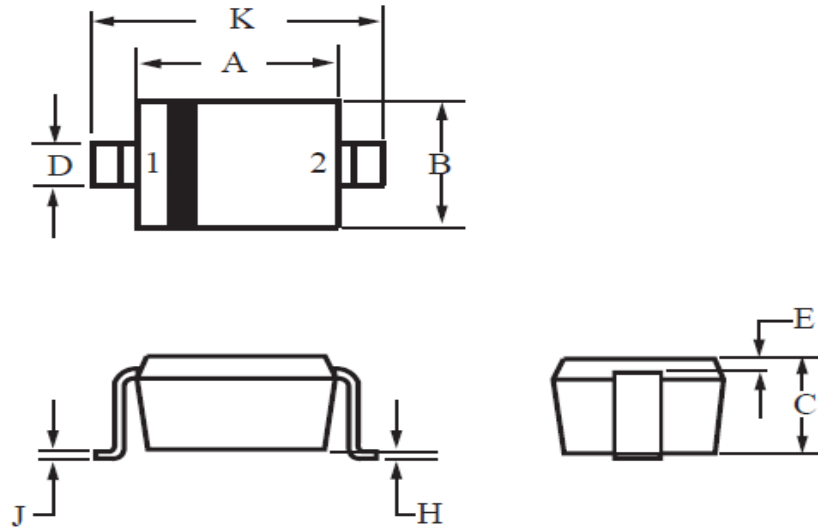
Figure6. Forward Voltage vs. Forward Current





PACKAGE INFORMATION

Dimension in SOD-323 Package (Unit: mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.600	1.800	0.062	0.070
B	1.150	1.350	0.045	0.053
C	0.800	1.000	0.031	0.040
D	0.250	0.400	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.000	0.100	0.000	0.004
J	0.089	0.177	0.003	0.007
K	2.300	2.700	0.090	0.105



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