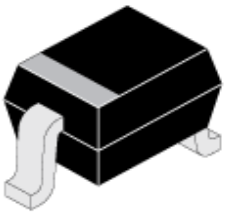
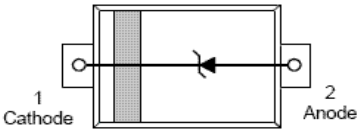
Transient Voltage Suppressors for ESD Protection

CESD3Z5.0
CESD3Z12





SOD-323
Surface Mount
Plastic Package

Features

1) Small Body Outline Dimensions
2) 350 Watts peak pulse power (tp = 8/20μs)
3) 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)
4) Small package for use in portable electronics
5) Suitable replacement for MLV's in ESD, protection applications
6) Protects one I/O or power line
7) Low clamping voltage
8) Working voltages: 5V and 12V
9) Low leakage current
10) Solid-state silicon-avalanche technology
11) We declare that the material of product compliance with RoHS requirements.

General Description

The CESD3Z 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.

Applications

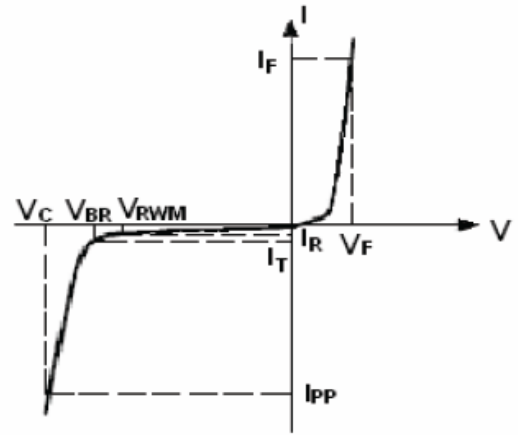
1) Cellular Phone Handsets and Accessories
2) Microprocessor based equipment
3) Personal Digital Assistants(PDA'S)
4) Notebooks, Desktops, and Servers
5) Portable Instrumentation
6) Pagers Peripherals

Absolute Maximum Ratings (T_A=25°C, unless otherwise specified)

DESCRIPTION	SYMBOL	UNIT	Unit
Peak Pulse Power (tp = 8/20μs)	P_{PK}	350	W
ESD Voltage(HBM Waveform per IEC 61000-4-2)	V_{ESD}	30	KV
Maximum lead temperature for soldering during 10s	T_L	260	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C
Maximum junction temperature	T_J	-55 to +125	°C

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.VF = 0.9V at IF = 10mA)

Decice	Parameters						
	V_{RWM}	I_R @V_{RWM}=5V	V_{BR} @I_t=1mA	V_{BR} @ I_t =1mA	V_C @I_{PP}=24, t_p=8/20µs	I_{PP} t_p=8/20µs	C
	(V)	(uA)	(V)	(V)	(V)	(A)	(pF)
	Max.	Max.	Min.	Typ.	Max.	Max.	Typ.
CESD3Z5.0	5.0	1.0	6.0	9.8	14.5	24	350
CESD3Z12	12.0	1.0	13.3	19.0	25.0	15	150

TYPICAL CHARACTERISTICS CURVES

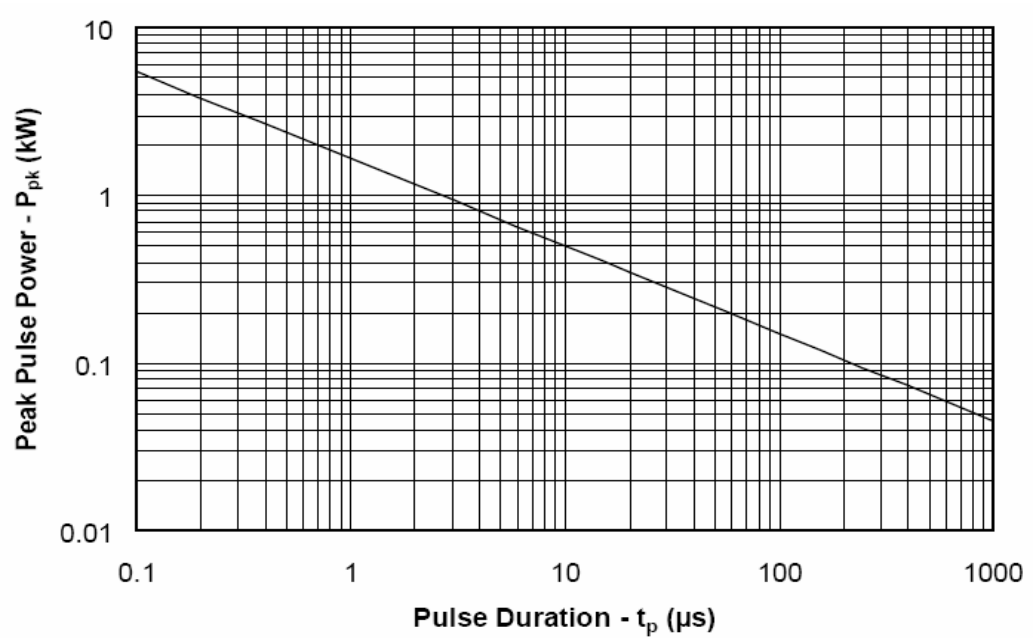


Fig.1 Non-Repetitive Peak Pulse Power vs. Pulse Time

TYPICAL

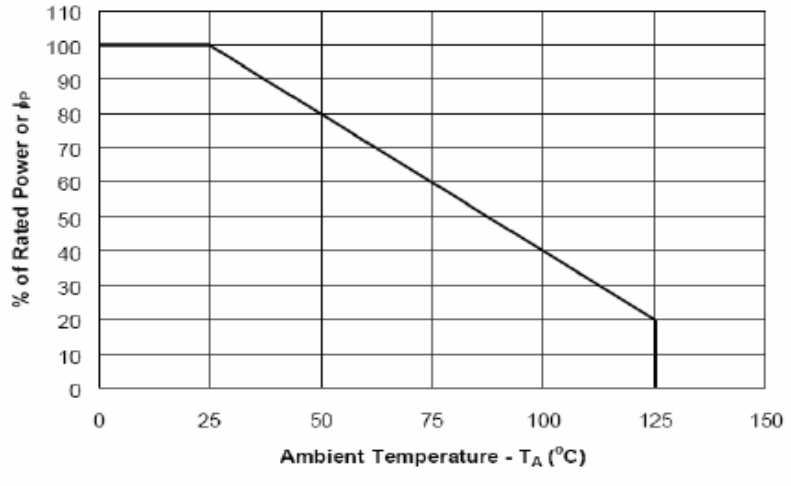


Fig.2 Power Derating Curve

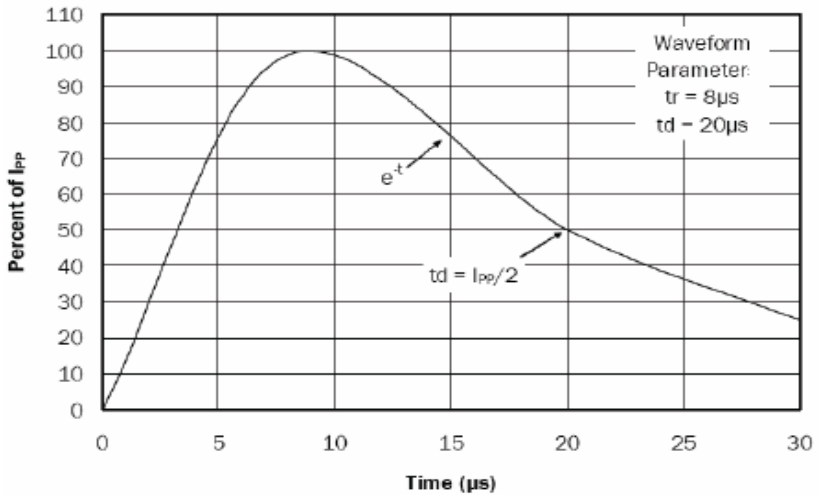


Fig.3 Waveform

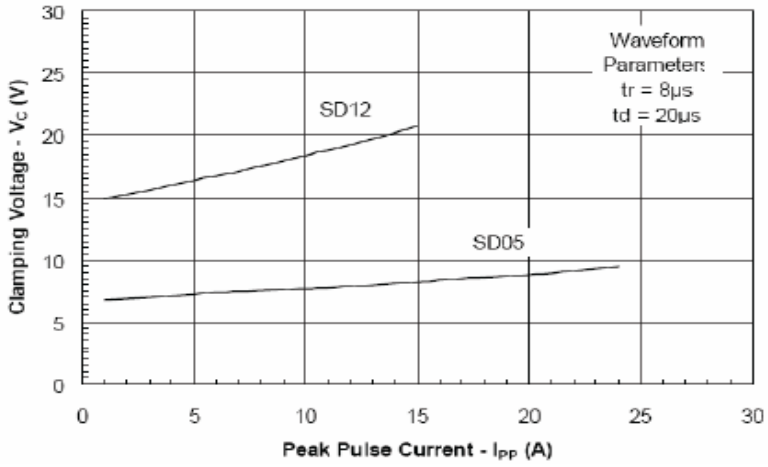


Fig.4 Clamping Voltage vs. Peak Pulse Current

TYPICAL CHARACTERISTICS CURVES (Continued…)

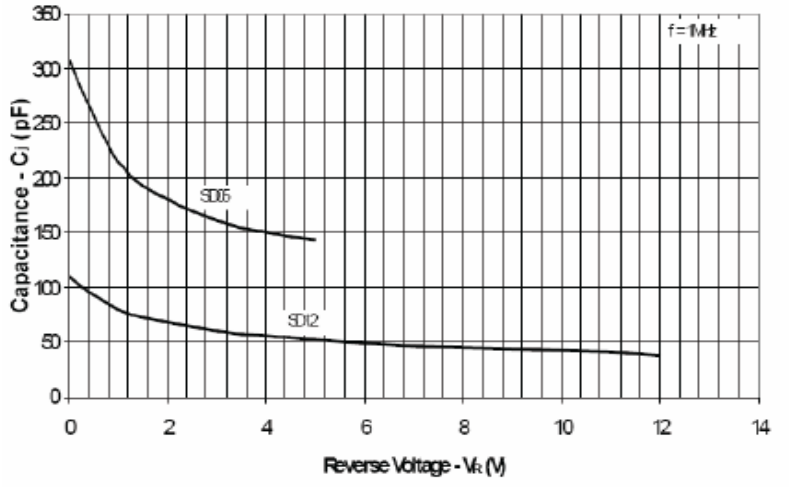


Fig.5 Capacitance vs. Reverse Voltage

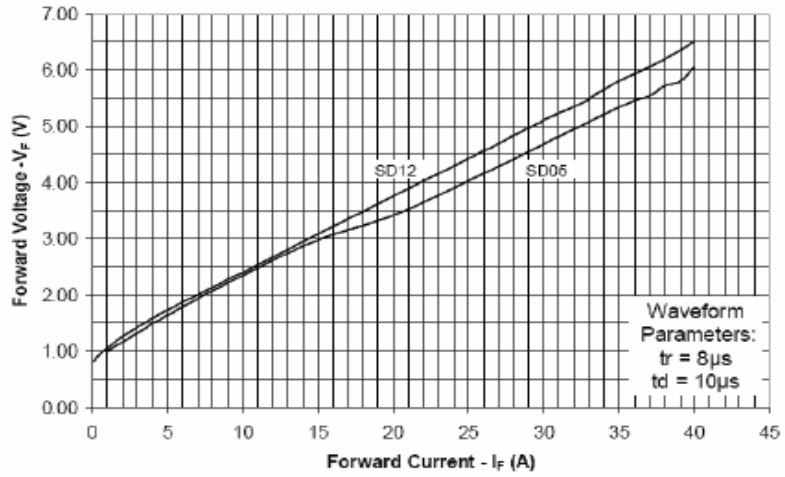
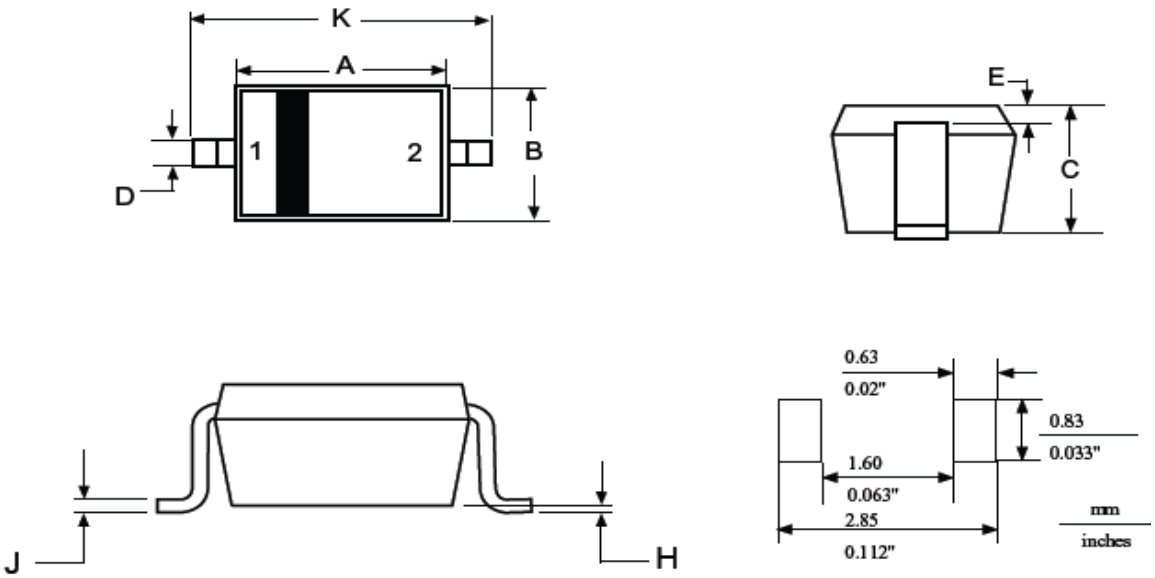


Fig.6 Forward Voltage vs. Forward Current

Package Details

SOD–323



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106

PIN: 1. CATHODE
2. ANODE

Customer Notes

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.

2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.

CDIL is a registered Trademark of
Continental Device India Pvt.Limited
C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-2579 6150, 4141 1112 Fax + 91-11-2579 5290, 4141 1119
email@cdil.com www.cdil.com
CIN No. - U32109DL1964PTC004291