

## Transient Voltage Suppressors for ESD Protection

### General Description

The LESD3Z5.0T1G 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.

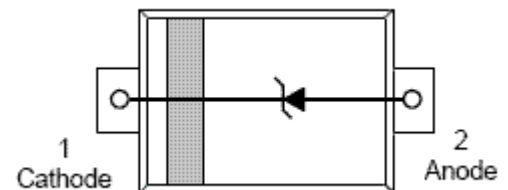
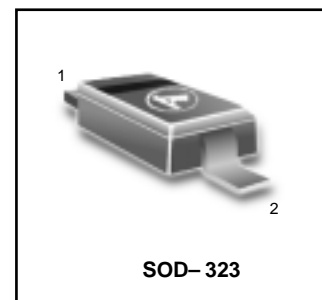
### Applications

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

### 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 $\mu s$ )**
- 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
- We declare that the material of product compliance with RoHS requirements.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

**LESD3Z5.0T1G**  
**S-LESD3Z5.0T1G**



### ORDERING INFORMATION

Device	Marking	Shipping
LESD3Z5.0T1G	05	3000/Tape & Reel

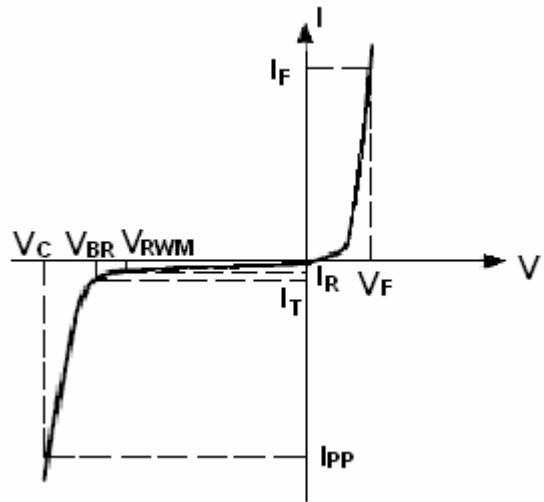
### Absolute Ratings ( $T_{amb}=25^{\circ}C$ )

Symbol	Parameter	Value	Units
$P_{PK}$	Peak Pulse Power ( $t_p = 8/20\mu s$ )	250	W
$V_{ESD}$	ESD Voltage(HBM Waveform per IEC 61000-4-2)	30	kV
$T_L$	Maximum lead temperature for soldering during 10s	260	$^{\circ}C$
$T_{STG}$	Storage Temperature Range	-55 to +150	$^{\circ}C$
$T_J$	Maximum junction temperature	-55 to +125	$^{\circ}C$

**Electrical Parameter**

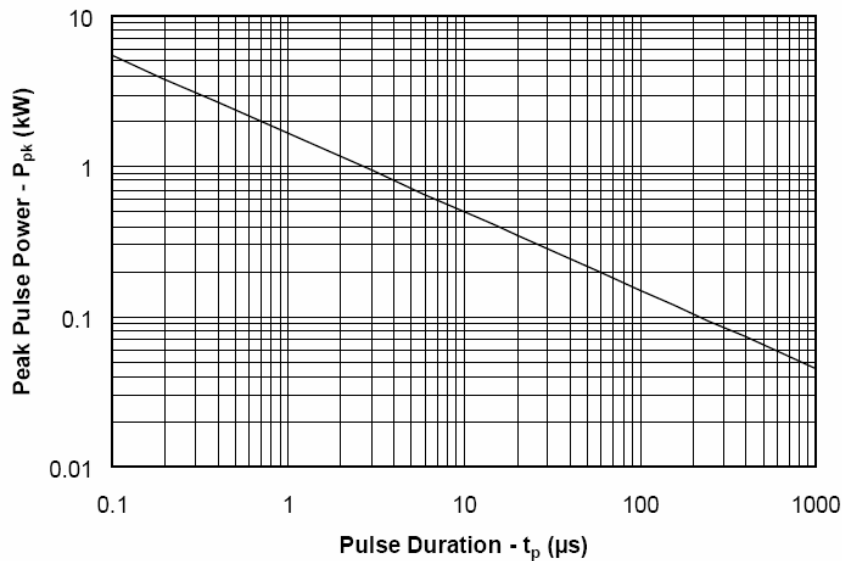
**LESD3Z5.0T1G , S-LESD3Z5.0T1G**

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 @ $I_F$

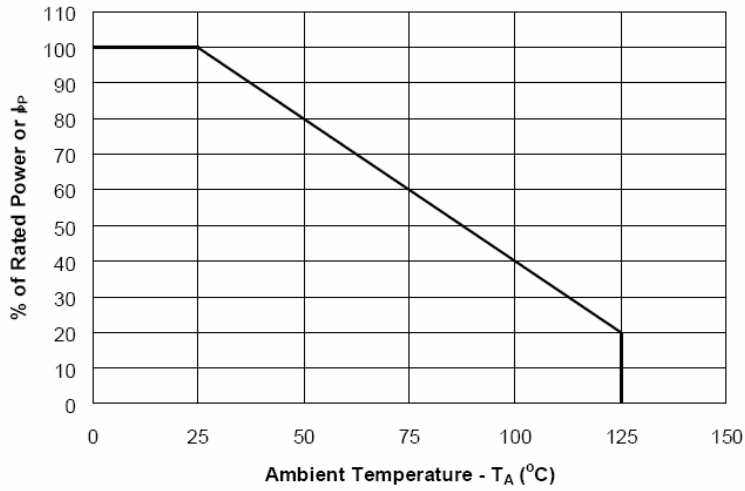
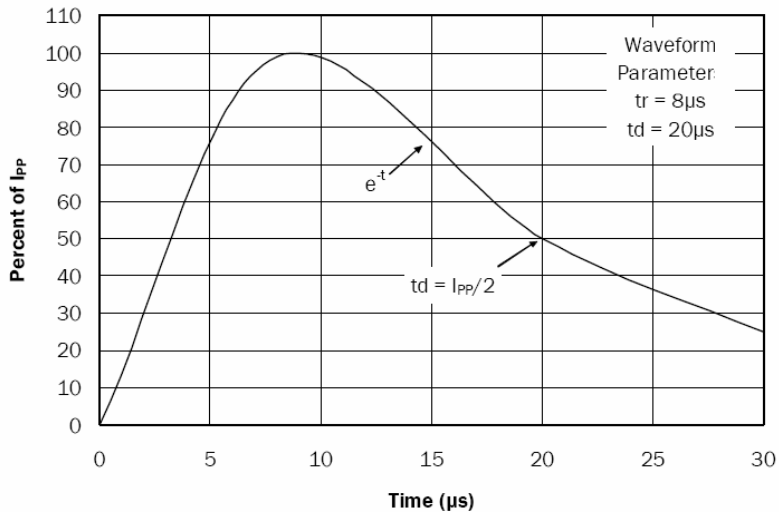
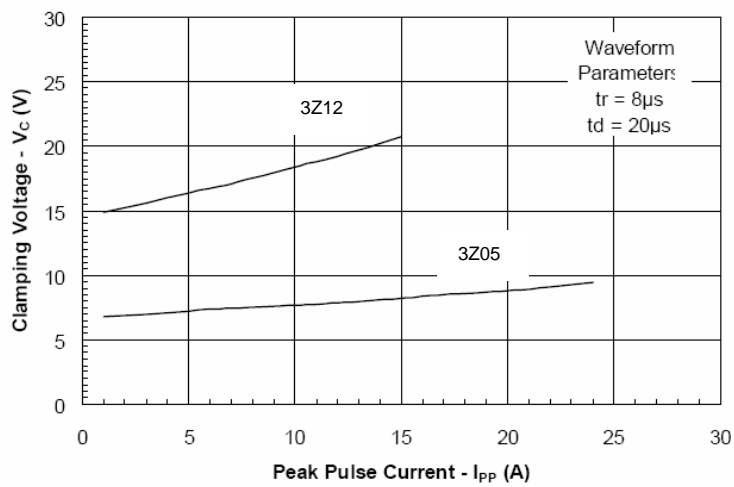


**Electrical Characteristics** Ratings at 25°C ambient temperature unless otherwise specified.  $V_F = 0.9V$  at  $I_F = 10mA$

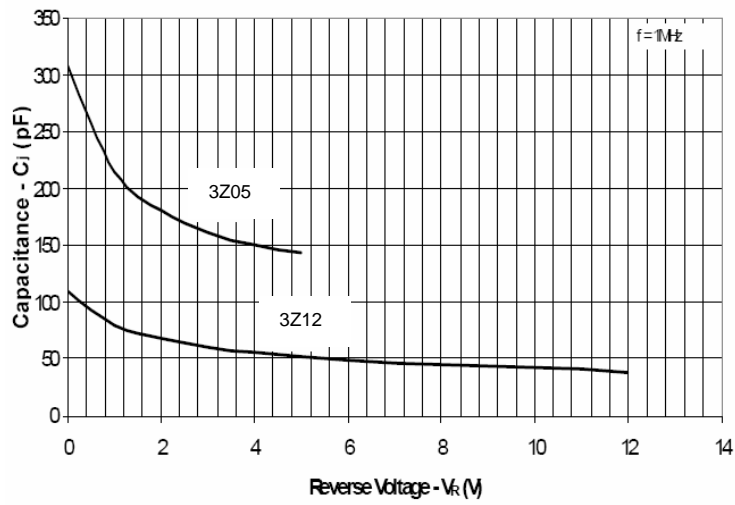
Device	$V_{RWM}$ (V)	$I_R$ ( $\mu A$ ) @ $V_{RWM}=5V$	$V_{BR}$ (V)@ $I_t=1mA$	$V_C$ (V) @ $I_{PP}=5 A$ $t_p=8/20\mu s$	$V_C$ (V) @ $I_{PP}=24$ $t_p=8/20\mu s$	$I_{PP}$ (A) $t_p=8/20\mu s$	C (pF)
	Max	Max	Min	Typ	Max	Max	Typ
LESD3Z5.0T1G	5.0	10	6.0	9.8	10.5	24	350
LESD3Z12T1G	12.0	1.0	13.3	19.0	16.5	15	150



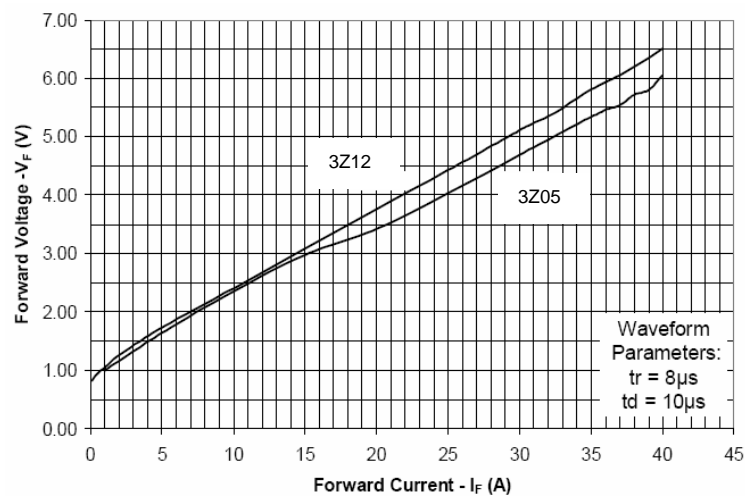
**Fig.1 Non-Repetitive Peak Pulse Power vs. Pulse Time**

**LESD3Z5.0T1G , S-LESD3Z5.0T1G**

**Fig.2 Power Derating Curve**

**Fig.3 Waveform**

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

## LESD3Z5.0T1G , S-LESD3Z5.0T1G



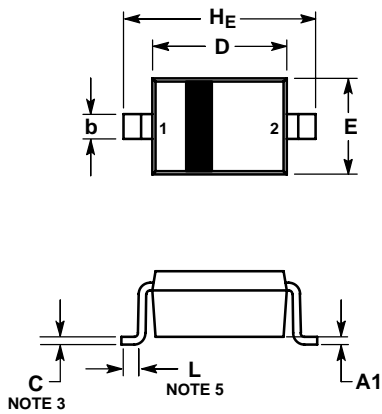
**Fig.5 Capacitance vs. Reverse Voltage**



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

# LESD3Z5.0T1G , S-LESD3Z5.0T1G

## SOD-323


**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.031	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3	0.15 REF			0.006 REF		
b	0.25	0.32	0.4	0.010	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.60	1.70	1.80	0.062	0.066	0.070
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
$H_E$	2.30	2.50	2.70	0.090	0.098	0.105

### SOLDERING FOOTPRINT\*

