HJKE

LESD5Z5.0CT1G
1-Line Bi-directional TVS Diode

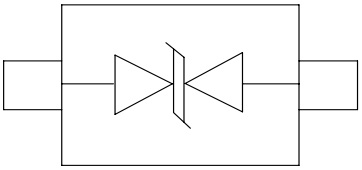
Description

LESD5Z5.0CT1G is a bi-directional TVS diode,utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive data and power line. The LESD5Z5.0CT1G complies with the IEC 61000-4-2 (ESD) with ±30kV air and ±30kV contact discharge. It is assembled into an ultra-small SOD-523 lead-free package. The small size and high ESD surge protection make LESD5Z5.0CT1G an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

SOD-523

Features

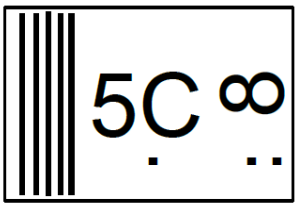
- Protects one data or power line
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±30kV
    Contact discharge: ±30kV
  – IEC61000-4-5 (Lightning) 8A (8/20μs)
- RoHS Compliant



Circuit diagram

Mechanical Characteristics

- Package: SOD-523
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Terminal Connections: See Diagram Below
- Marking Information: See Below



Marking

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

Ordering Information

Part Number	Packaging	Reel Size
LESD5Z5.0CT1G	3000/Tape & Reel	7 inch

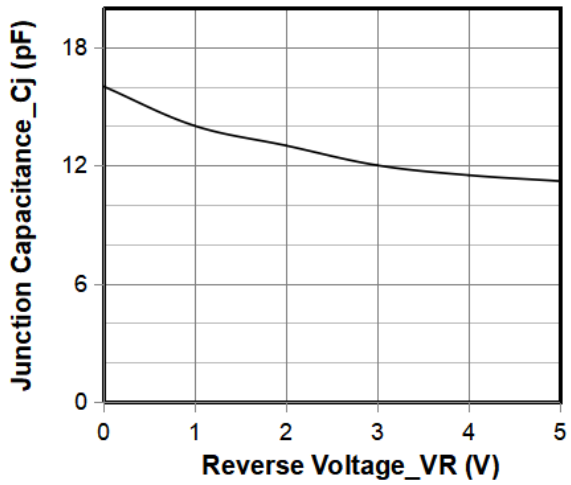
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	80	W
Peak Pulse Current (8/20μs)	I_{PP}	8	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±30 ±30	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

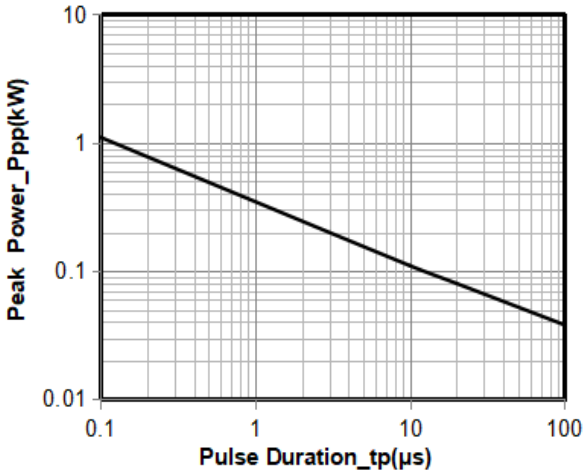
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	5.6	6.5	8	V	I_T = 1mA
Reverse Leakage Current	I_R			0.1	μA	V_{RWM} = 5V
Clamping Voltage	V_C			8	V	I_{PP} = 1A
Clamping Voltage	V_C			10	V	I_{PP} = 8A
Junction Capacitance	C_J		15		pF	VR = 0V, f = 1MHz

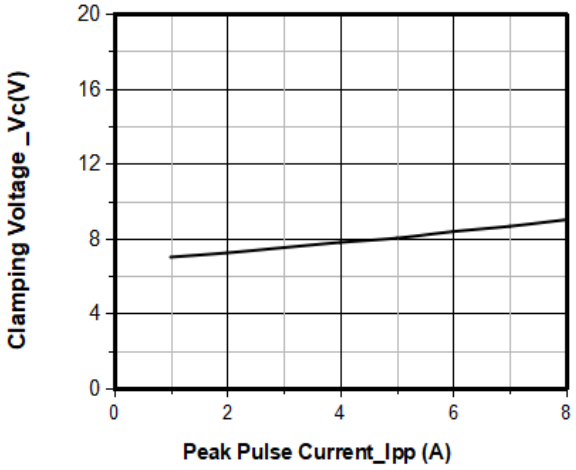
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



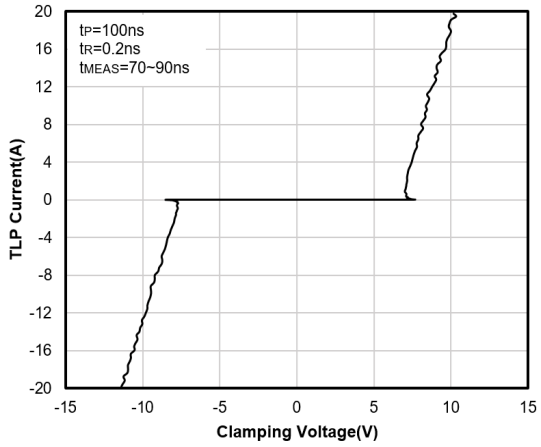
Junction Capacitance vs. Reverse Voltage



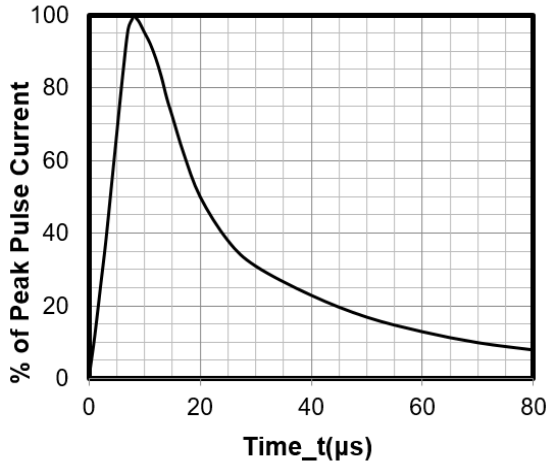
Peak Pulse Power vs. Pulse Time



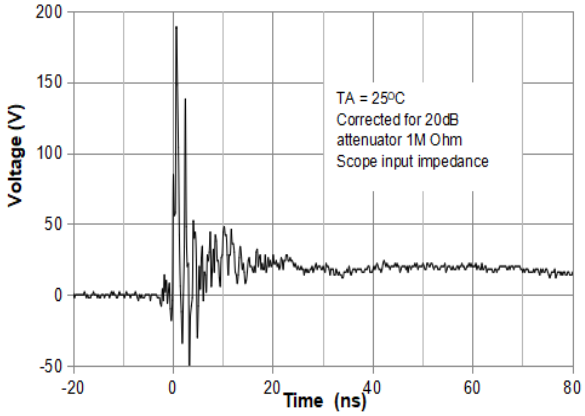
Clamping Voltage vs. Peak Pulse Current (tp = 8/20us)



Transmission Line Pulsing (TLP) Voltage (V)



8 X 20μs Pulse Waveform



ESD Clamping Voltage

8 kV Contact per IEC61000−4−2