

# JE05U5LT50-6

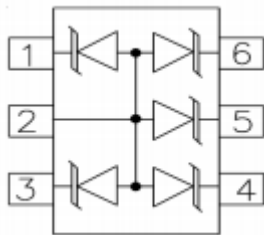
## 5-Line Uni-directional High Power TVS Diode



### Description

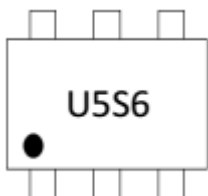
The JE05U5LT50-6 is a TVS array, utilizing leading monolithic silicon technology to provide fast response time and ultra low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive portable electronics. The JE05U5LT50-6 complies with the IEC 61000- 4-2 (ESD) with  $\pm 30\text{kV}$  air and  $\pm 30\text{kV}$  contact discharge. It is assembled into a 6-lead SOT-563 lead-free package. The leads are finished with lead-free matte tin. Each device will protect up to 5 lines.

### Circuit Diagram



Circuit and Pin Schematic

### Marking Diagram



Transparent top view

U5S6:Device Marking Code

### Features

- \* 100W peak pulse power (8/20 $\mu\text{s}$ )
- \* Low leakage: nA level
- \* Operating voltage: 5V
- \* Ultra low clamping voltage
- \* Five power line protects
- \* Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - IEC61000-4-5 (Lightning) 8A (8/20 $\mu\text{s}$ )
- \* RoHS Compliant
- \* Package: SOT-563

### Applications

- \* Audio Players
- \* Peripherals
- \* Display Ports
- \* MDDI Ports
- \* USB Ports
- \* Digital Video Interface (DVI)
- \* PCI Express and Serial SATA Ports

### Ordering Information

Part Number	Packaging	Reel Size
JE05U5LT50-6	3000/Tape & Reel	7 inch

### Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

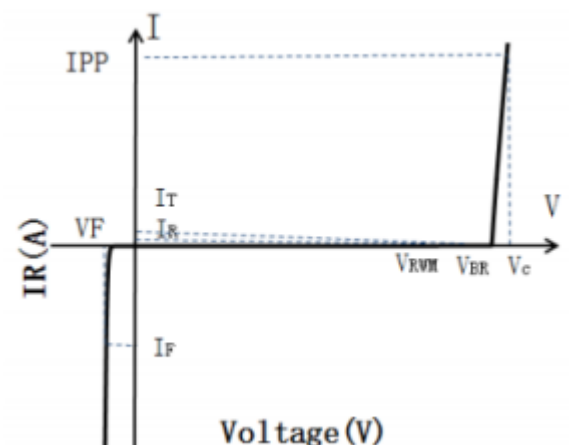
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	Ppk	100	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	IPP	8	A
ESD per IEC 61000-4-2 (Air)	VESD	$\pm 30$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

### Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

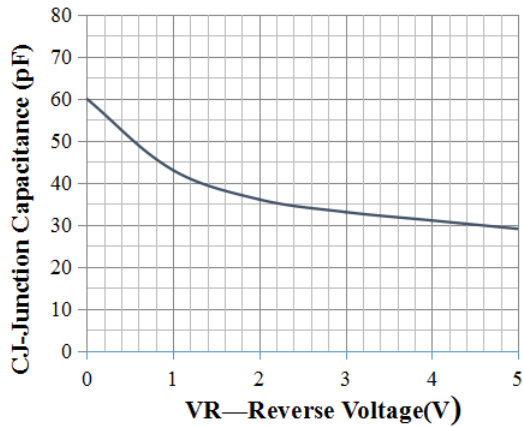
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{\text{RWM}}$				5	V
Breakdown Voltage	$V_{\text{BR}}$	$I_{\text{T}} = 1\text{mA}$	6		8.5	V
Reverse Leakage Current	$I_{\text{R}}$	$V_{\text{RWM}} = 5\text{V}$			0.2	$\mu\text{A}$
Clamping Voltage	$V_{\text{C}}$	$I_{\text{PP}} = 1\text{A}$ (8 x 20 $\mu\text{s}$ pulse)			8	V
Clamping Voltage	$V_{\text{C}}$	$I_{\text{PP}} = 8\text{A}$ (8 x 20 $\mu\text{s}$ pulse)			12	V
Junction Capacitance	$C_{\text{J}}$	$V_{\text{R}} = 0\text{V}$ , $f = 1\text{MHz}$		55		pF

### Portion Electronics Parameter

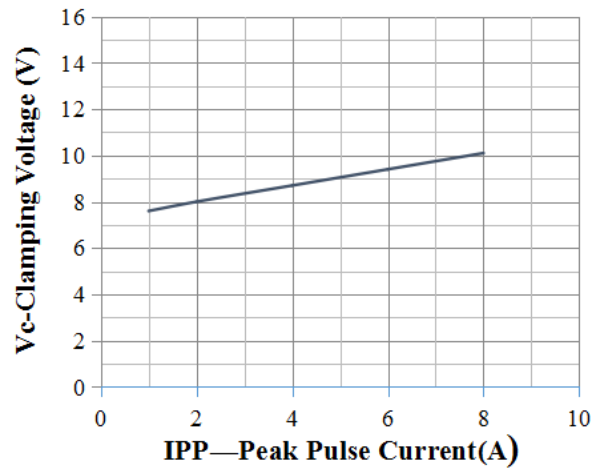
Symbol	Parameter
$I_{\text{T}}$	Test Current
$I_{\text{PP}}$	Maximum Reverse Peak Pulse Current
$V_{\text{C}}$	Clamping Voltage @ $I_{\text{C}}$



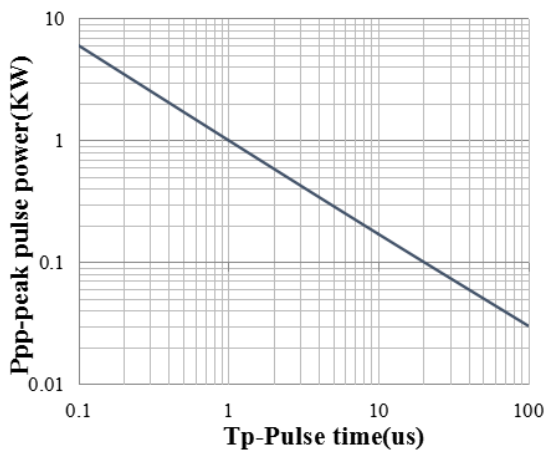
## Typical Performance Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise Specified)



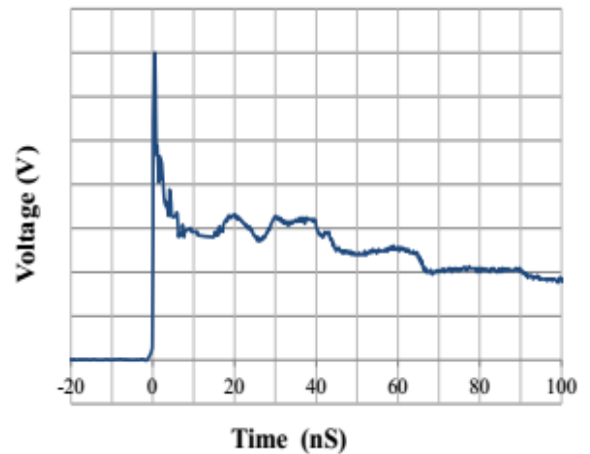
Junction Capacitance vs. Reverse Voltage



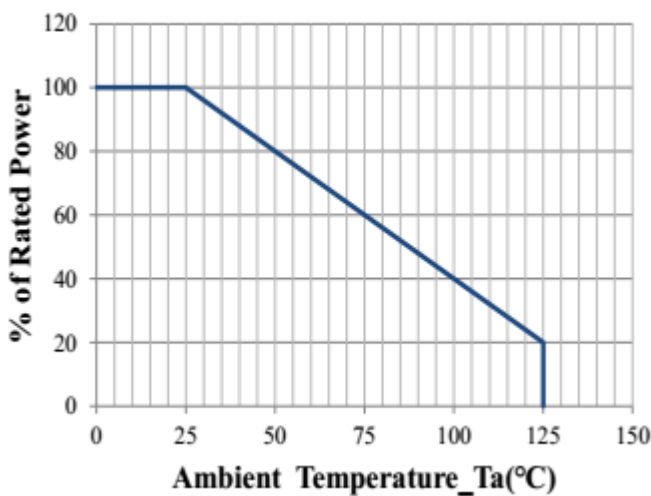
Clamping Voltage vs. Peak Pulse Current



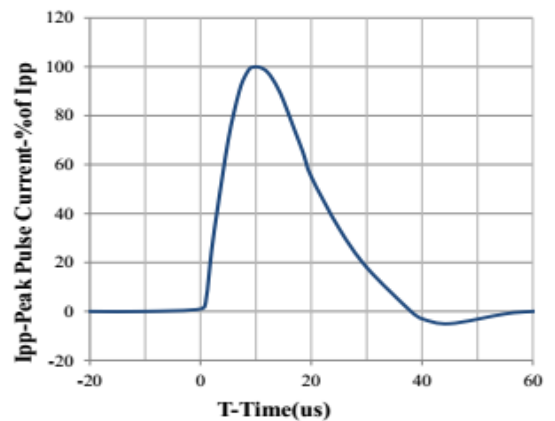
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

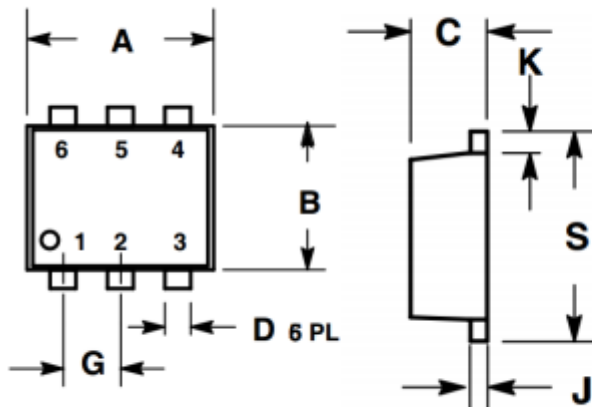


Power Derating Curve



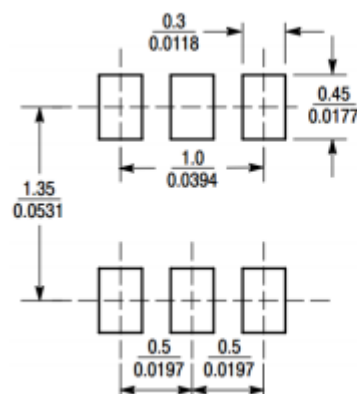
8 X 20us Pulse Waveform

## SOT-563 Package Outline Drawing



SYM	DIMENSIONS			
	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.70	0.059	0.067
B	1.10	1.30	0.043	0.051
C	0.50	0.60	0.020	0.024
D	0.17	0.27	0.007	0.011
G	0.50 BSC		0.020 BSC	
J	0.08	0.18	0.003	0.007
K	0.10	0.30	0.004	0.012
S	1.50	1.70	0.059	0.067

## Suggested Land Pattern



Unit: (mm)

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