



JLE05ULT5-6

5-Line Uni-directional High Power TVS Diode

Jialan-Microelectronics

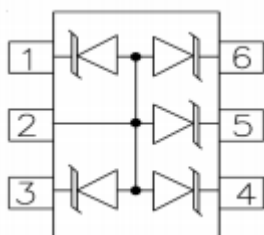
Description

The JLE05ULT5-6 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 JLE05ULT5-6 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.

Features

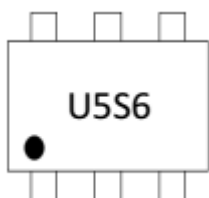
- * 100W peak pulse power (8/20 μs)
- * Low leakage: nA level
- * Operating voltage: 5V
- * Ultra low clamping voltage
- * Five power line protects
- * Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
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

Circuit Diagram



Circuit and Pin Schematic

Marking Diagram



Transparent top view

U5S6:Device Marking Code

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
JLE05ULT5-6	3000/Tape & Reel	7 inch



JLE05ULT5-6

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

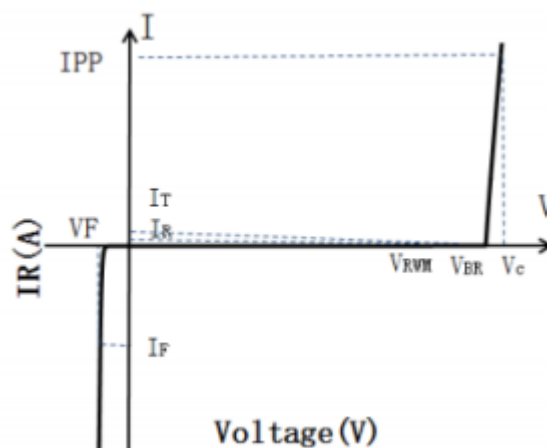
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	100	W
Peak Pulse Current (8/20 μs)	IPP	8	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	TJ	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6		8.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$			0.2	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)			8	V
Clamping Voltage	V_C	$I_{PP} = 8\text{A}$ (8 x 20 μs pulse)			12	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		55		pF

Portion Electronics Parameter

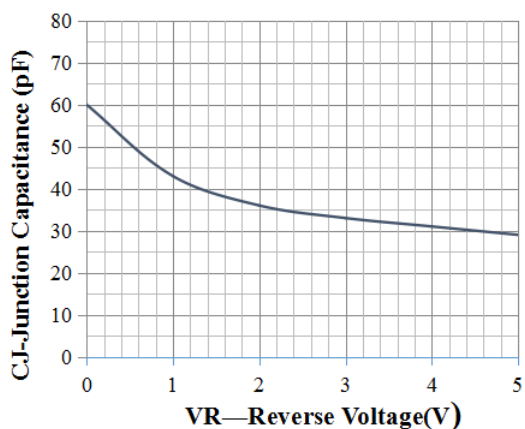
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C



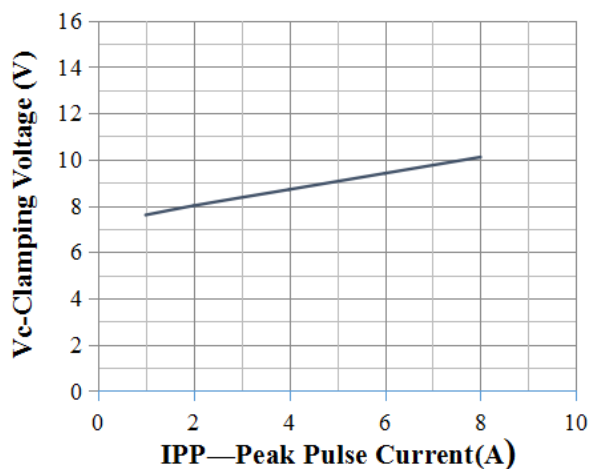


JLE05ULT5-6

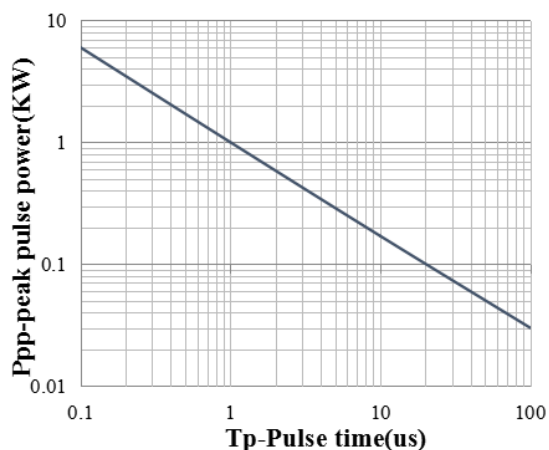
Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



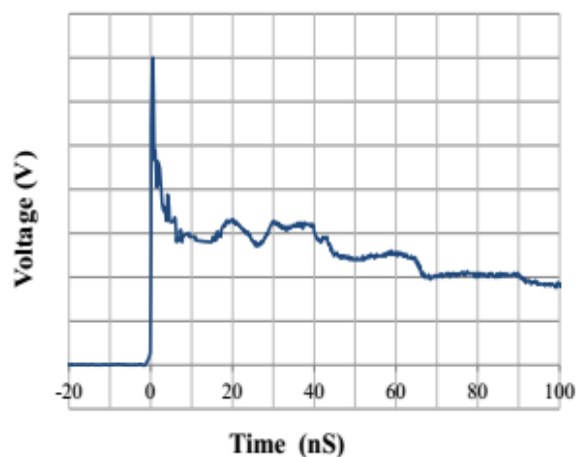
Junction Capacitance vs. Reverse Voltage



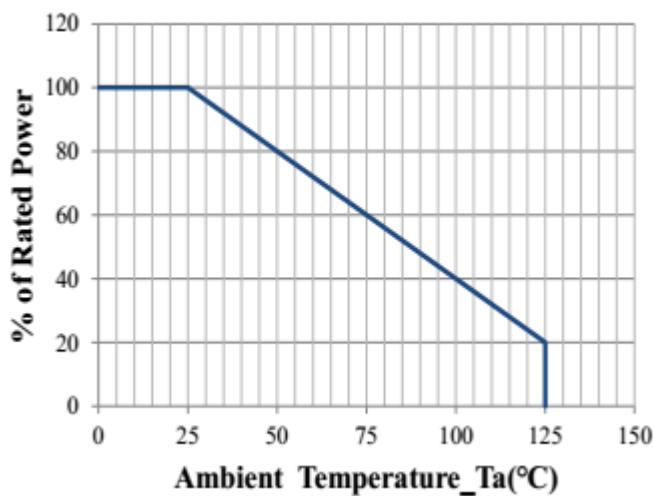
Clamping Voltage vs. Peak Pulse Current



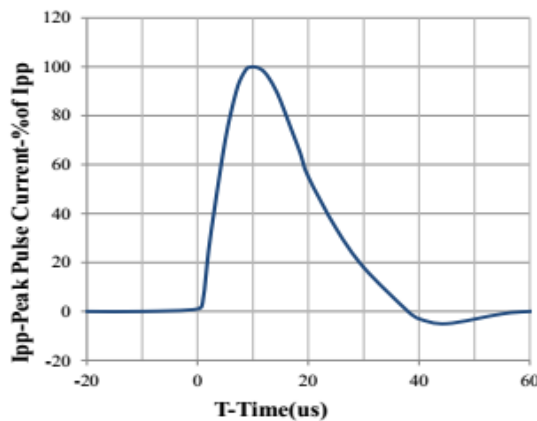
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



Power Derating Curve

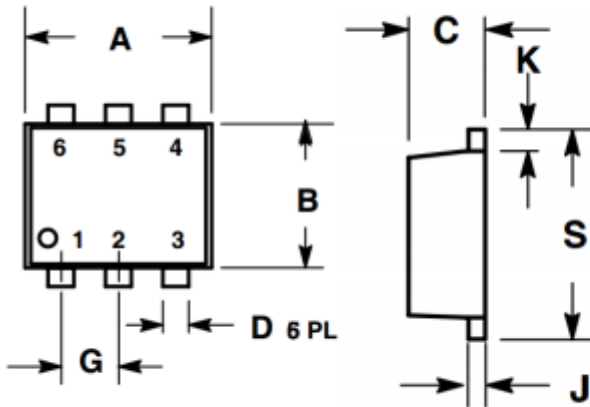


8 X 20us Pulse Waveform



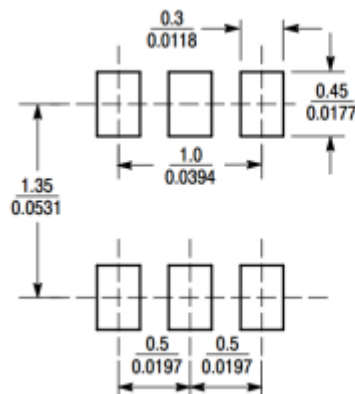
JLE05ULT5-6

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)

NOTICE

Jelan-Link reserves the right to make changes without further notice to any products here in.

Only obligations are those in the Jelan-Link Standard Terms and Conditions of Sale and in no case will Jelan-Link be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of its products.