

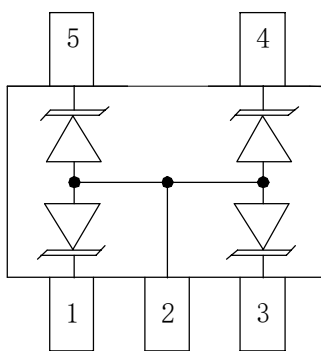
Description

The JE05U4UT60-5 is a low capacitance TVS array, 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 high-speed data lines. The JE05U4UT60-5 has low capacitance with a typical value at 10pF, and complies with the IEC 61000-4-2 (ESD) standard with $\pm 15\text{kV}$ air and $\pm 12\text{kV}$ contact discharge. It is assembled into a 5-pin lead-free SOT-553 package. The combination of small size, low capacitance and high level of ESD protection makes it ideal for cellular, notebooks, desktops, and other portable application.

Features

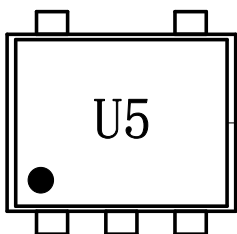
- * Ultra low leakage: nA level
- * Operating voltage: 5V
- * Low clamping voltage
- * Up to 4 lines protects
- * SOT-553 package
- * Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 15\text{kV}$
 - Contact discharge: $\pm 12\text{kV}$
 - IEC61000-4-5 (Lightning) 2A (8/20us)
- * RoHS Compliant

Circuit Diagram



Circuit Diagram

Marking Diagram



Transparent top view

U5= Device Marking Code

Dot denotes Pin1

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
JE05U4UT60-5	3000/Tape & Reel	7 inch

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

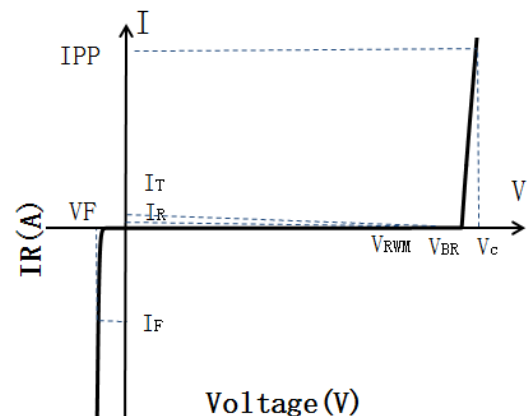
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	25	W
Peak Pulse Current (8/20 μs)	IPP	2	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 12	
Operating Temperature Range	TJ	-40 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-40 to +150	$^{\circ}\text{C}$

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

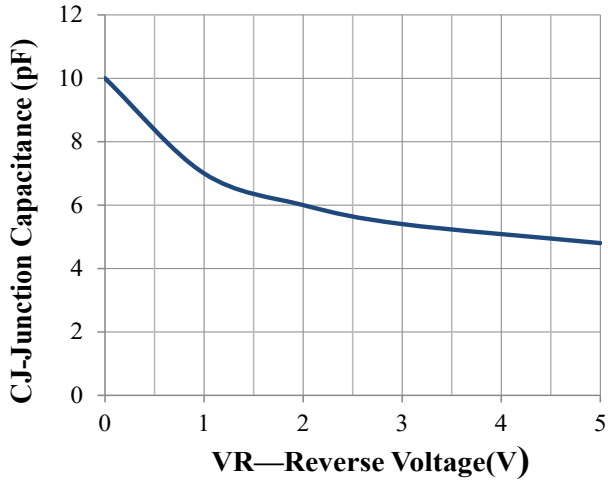
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	I/O-GND			5.0	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA(I/O-GND)}$	6.0	7.5	8.5	V
Reverse Leakage Current	I_R	$V_{\text{RWM}} = 5.0\text{V}$			0.5	μA
Forward Breakdown Voltage	V_F	$I_F = 10\text{mA,GND to Pin IO}$		0.8	1.0	V
Clamping Voltage	V_C	IPP = 2A (8 x 20 μs pulse)			12.5	V
Junction Capacitance	C_J	$f = 1\text{MHz,I/O-GND}$		10		pF
Junction Capacitance	C_L	$f = 1\text{MHz,I/O-I/O pins}$		5		pF

Portion Electronics Parameter

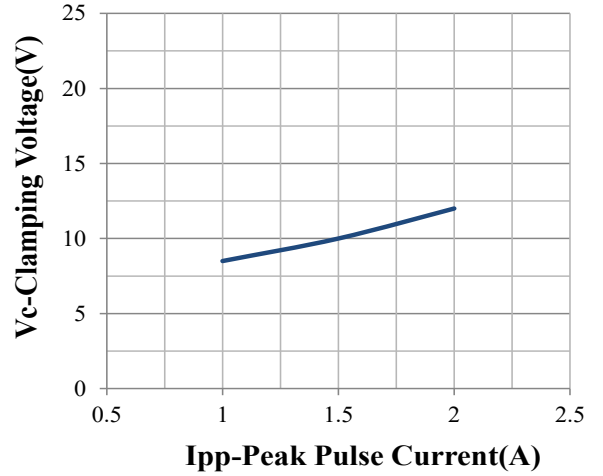
Symbol	Parameter
I_T	Test Current
IPP	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C



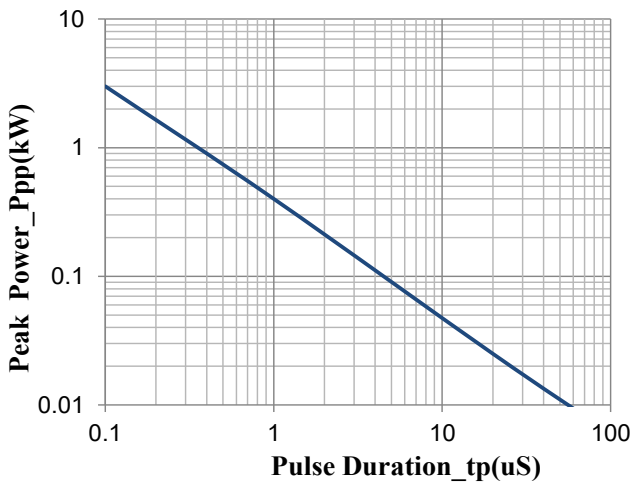
Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



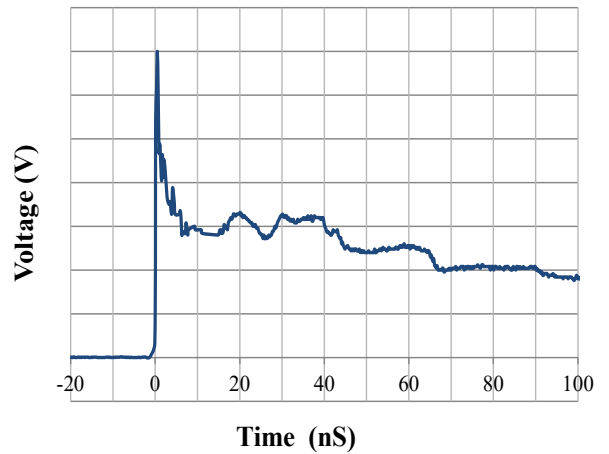
Junction Capacitance vs. Reverse Voltage



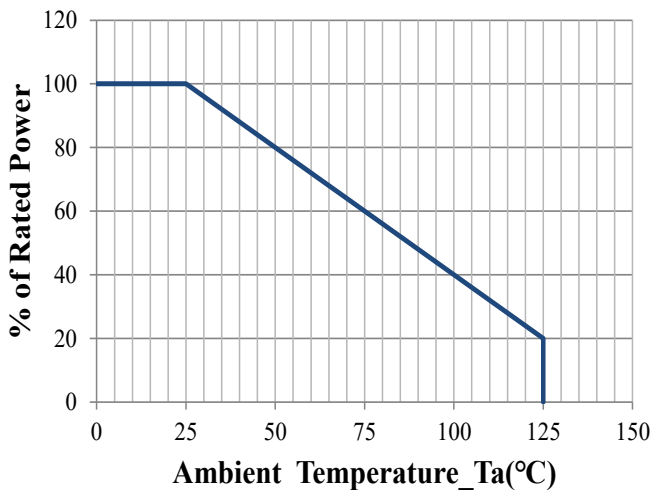
Clamping Voltage vs. Peak Pulse Current



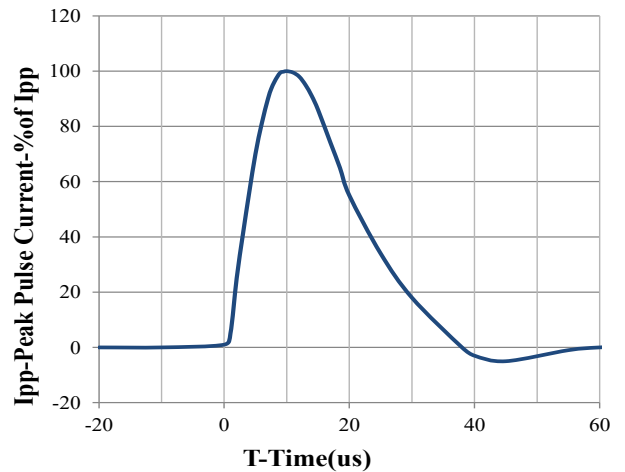
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

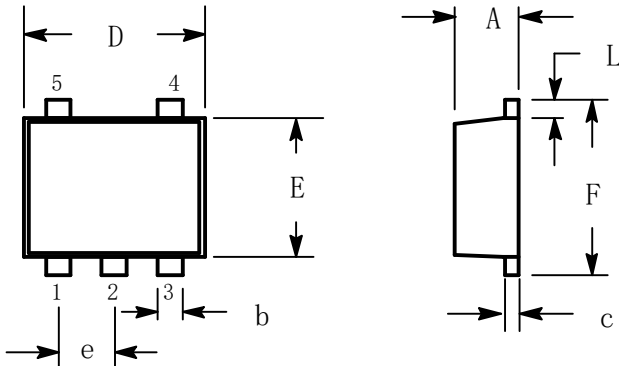


Power Derating Curve



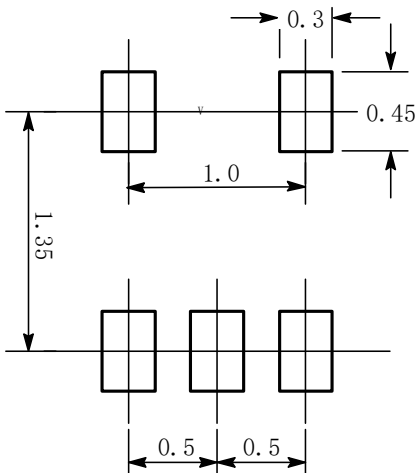
8 X 20us Pulse Waveform

SOT-553 Package Outline Drawing



DIM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.50	0.55	0.60	0.020	0.022	0.024
b	0.17	0.22	0.27	0.007	0.009	0.011
c	0.08	0.13	0.18	0.003	0.005	0.007
D	1.50	1.60	1.70	0.059	0.063	0.067
e	0.50 BSC			0.020 BSC		
E	1.10	1.20	1.30	0.043	0.047	0.051
L	0.10	0.20	0.30	0.004	0.008	0.012
F	1.50	1.80	1.70	0.059	0.063	0.067

Suggested Land Pattern



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