

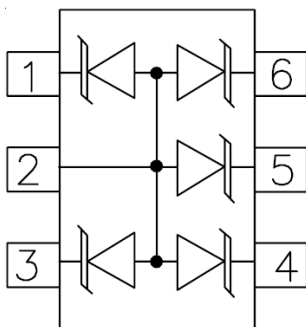
## Description

The JE05U5LT20-6 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 JE05U5LT20-6 complies with the IEC 61000-4-2 (ESD) standard with  $\pm 20\text{kV}$  air and  $\pm 15\text{kV}$  contact discharge. It is assembled into a 6 pin lead-free SOT23-6 Package. The leads are finished with lead-free matte tin. Each device will protect up to four lines.

## Features

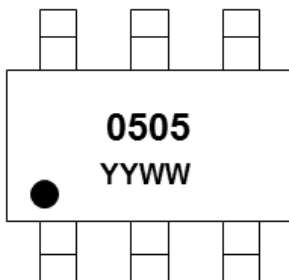
- \* Ultra low leakage: nA level
- \* Operating voltage: 5V
- \* Up to 5 data lines
- \* Low clamping voltage
- \* Excellent surge protection (80W at 8/20 $\mu\text{s}$ )
- \* Complies with following standards:  
IEC 61000-4-2 (ESD) immunity test  
Air :  $\pm 20\text{kV}$ ; discharge:  $\pm 15\text{kV}$ ;
- \* SOT23-6 Package
- \* RoHS Compliant

## Circuit Diagram



Circuit Diagram

## Marking Diagram



### Transparent top view

0505= Device Marking Code

YYWW = Date Code

Dot denotes Pin1

## Applications

- \* Audio Players
- \* SIM Card
- \* Portable Instrumentation
- \* Desktops PC and Servers
- \* Microprocessor Based Equipment
- \* Cell Phone Handsets and Accessories
- \* Notebook, Laptop, and Palmtop Computers

## Ordering Information

Part Number	Packaging	Reel Size
JE05U5LT20-6	3000/Tape & Reel	7 inch

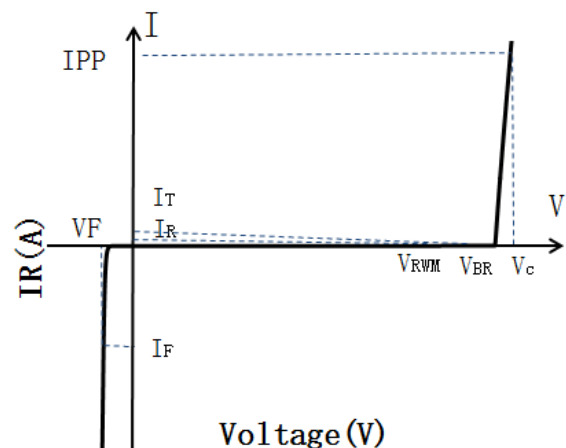
**Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ , I/O-GND)	Ppk	100	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	IPP	7	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	$\pm 20$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 15$	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T stg	-55 to +150	$^{\circ}\text{C}$

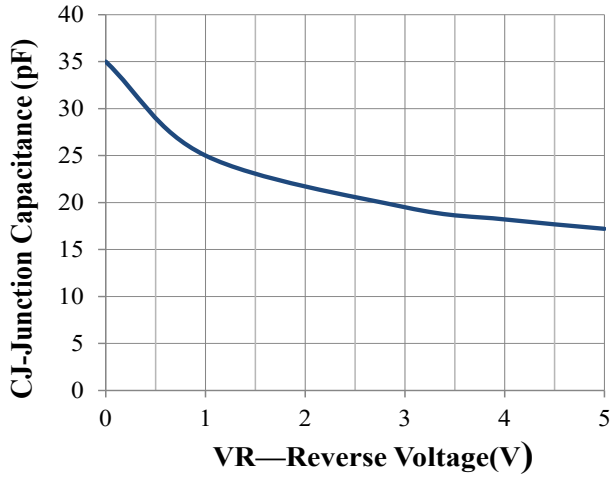
**Electrical Characteristics ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)**

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V <sub>RWM</sub>	I/O-GND			5.0	V
Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> = 1mA(I/O-GND)	6.0	7.5	8.5	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> = 5.0V			0.5	$\mu\text{A}$
Forward Breakdown Voltage	V <sub>F</sub>	I <sub>F</sub> = 10mA, GND to IO		0.8	1.0	V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 7A (8 x 20 $\mu\text{s}$ pulse)			15	V
Junction Capacitance	C <sub>J</sub>	f = 1MHz, I/O-GND		35	50	pF
Junction Capacitance	C <sub>L</sub>	f = 1MHz, I/O-I/O pins		15	25	pF

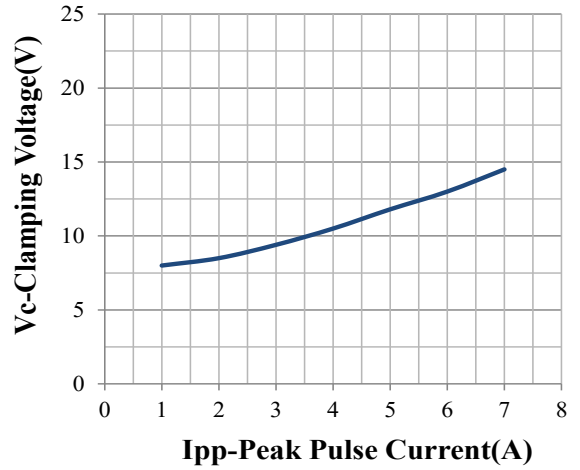
Symbol	Parameter
I <sub>T</sub>	Test Current
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @I <sub>C</sub>



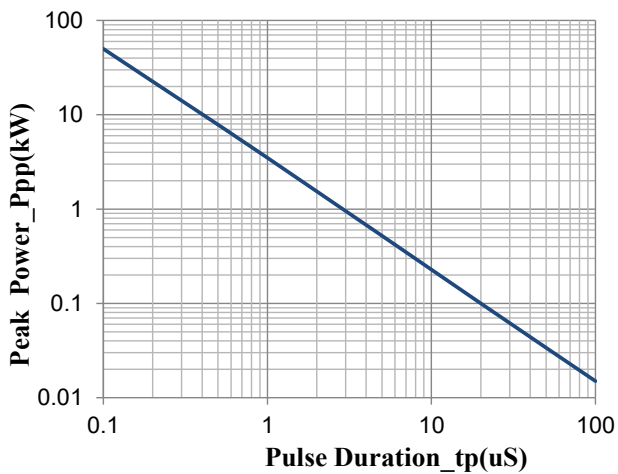
Typical Performance Characteristics ( $T_A=25^{\circ}\text{C}$  unless otherwise Specified)



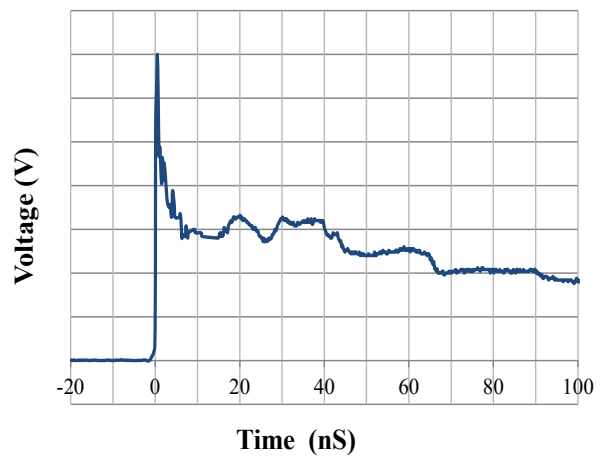
Junction Capacitance vs. Reverse Voltage



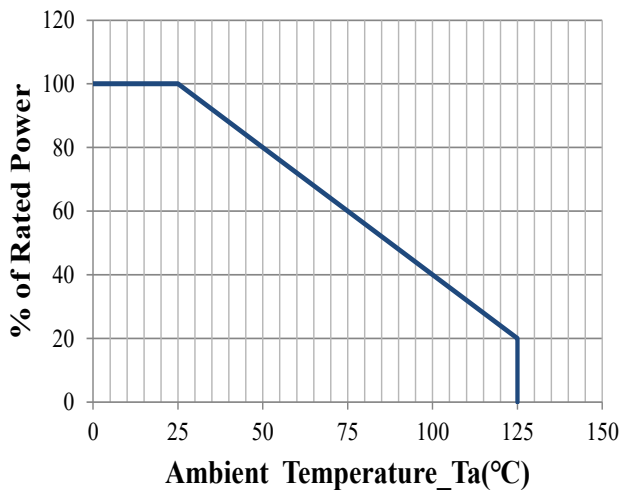
Clamping Voltage vs. Peak Pulse Current



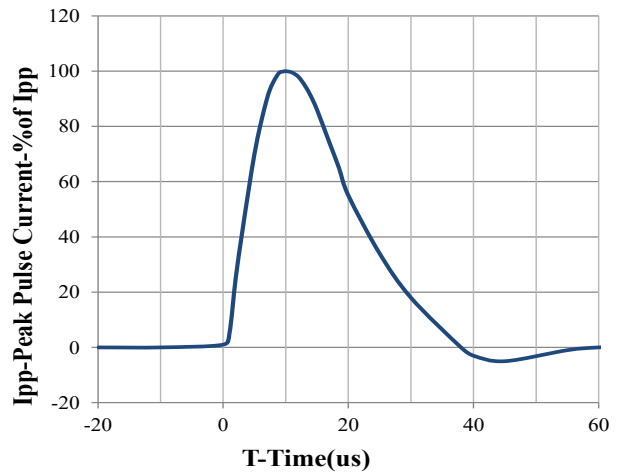
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

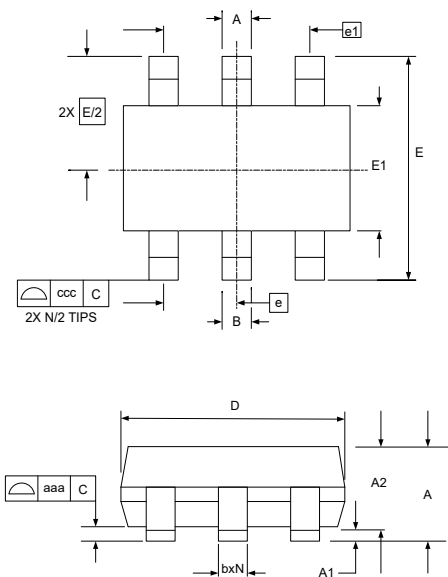


Power Derating Curve



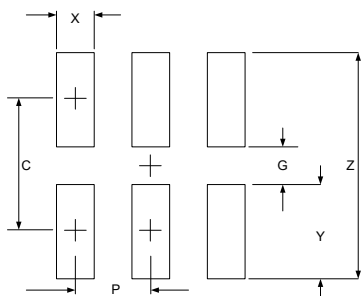
8 X 20us Pulse Waveform

SOT23-6 Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.90		1.45	0.035		0.057
A1	0.00		0.15	0.000		0.006
A2	0.90	1.15	1.30	0.035	0.045	0.051
b	0.25		0.50	0.010		0.020
c	0.08		0.22	0.003		0.009
D	2.80	2.90	3.10	0.110	0.114	0.122
E1	1.50	1.60	1.75	0.060	0.063	0.069
E	2.80 BSC			0.110 BSC		
e	0.95 BSC			0.037 BSC		
e1	1.90 BSC			0.075 BSC		
N	6			6		
aaa	0.10			0.004		
ccc	0.20			0.008		

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	2.50	0.098
G	1.40	0.055
P	0.95	0.037
X	0.60	0.024
Y	1.10	0.043
Z	3.60	0.141

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