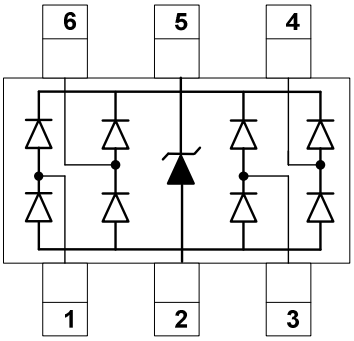
SRV05-4.TCT

Low Capactiance 4-Line TVS Array

Features

- Ultra low capacitance: 0.3pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- Up to 4 data lines and one power line protects
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±25kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) : 3A(8/20μs)

ROHS Compliant



Circuit and Pin Schematic

Applications

- USB 2.0 and USB 3.0 Ports
- USB OTG
- Digital video interface(DVI)
- Monitor and Flat Panel Displays
- PCI Express and Serial SATA Ports
- Gigabit Ethernet
- IEEE 1394 firewire ports
- Consumer products (STB, DVD, DSC, DVC…)

Mechanical Characteristics

- Package: SOT23-6
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020

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

Parameter	Symbol	Value	Unit
Peak Pulse Power（tp=8/20μs）	P_{PP}	60	W
Peak Pulse Current（tp=8/20μs）	I_{PP}	3	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±30 ±25	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	Any I/O pin to ground
Breakdown Voltage	V_{BR}	6			V	I_T = 1mA, any I/O pin to ground
Reverse Leakage Current	I_R			0.5	μA	V_{RWM} = 5V, any I/O pin to ground
Clamping Voltage	V_C			15	V	I_{PP} = 1A (8 x 20μs pulse) any I/O pin to ground
Clamping Voltage	V_C			20	V	I_{PP} = 3A (8 x 20μs pulse) any I/O pin to ground
Junction Capacitance	C_J		0.3	0.4	pF	VR = 0V, f = 1MHz, between I/O pins
Junction Capacitance	C_J			0.8	pF	VR = 0V, f = 1MHz, any I/O pin to ground

Note 1: I/O pins are Pin 1, 3, 4 and 6

Typical Characteristics

Fig1. 8/20μs Pulse Waveform

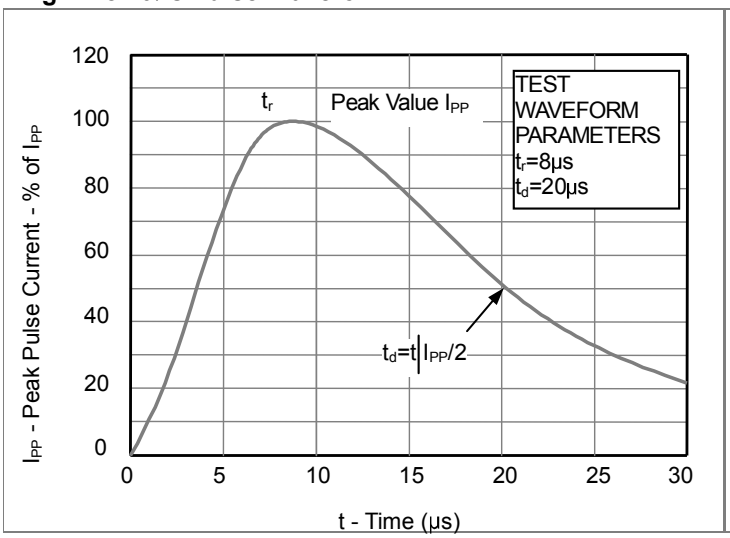


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

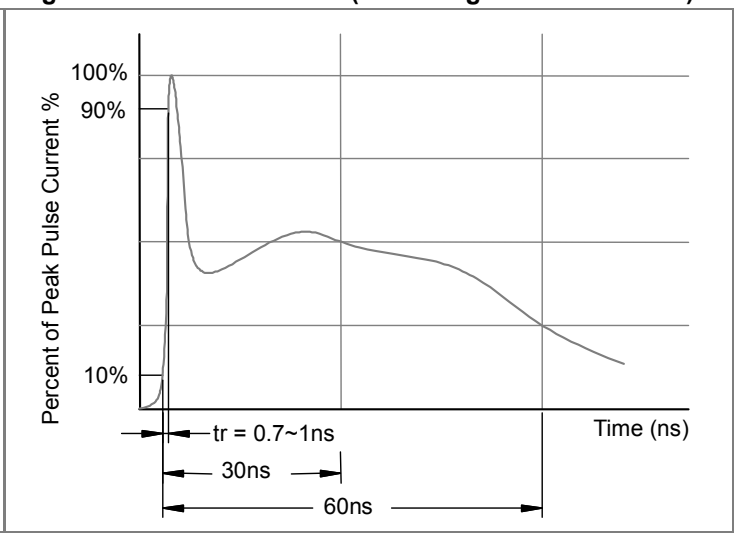
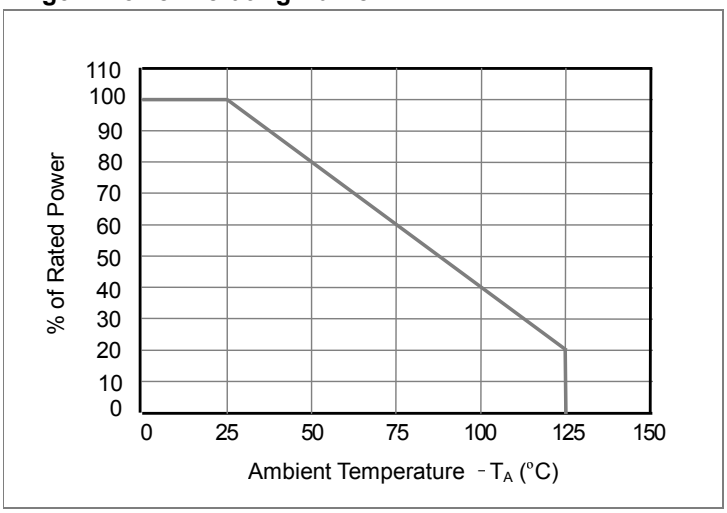
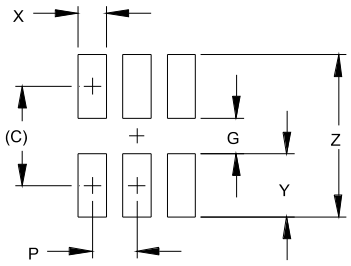


Fig3. Power Derating Curve

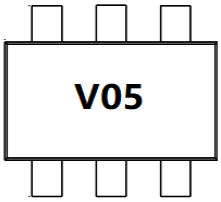


Outline Drawing - SOT23-6



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.098)	(2.50)
G	.055	1.40
P	.037	0.95
X	.024	0.60
Y	.043	1.10
Z	.141	3.60

Marking



Ordering information

Order code	Package	Base qty	Delivery mode
SRV05-4.TCT	SOT23-6	3000	Tape and reel