

## ESDSRV05-4H

### Description

The ESDSRV05-4H has ultra low capacitance rail-to-rail diodes with an additional zener diode fabricated in a proprietary silicon avalanche technology to protect each I/O pin providing a high level of protection for electronic equipment that may experience destructive electrostatic discharges (ESD). These robust diodes can safely absorb repetitive ESD strikes at the maximum level (level 4) specified in the IEC 61000-4-2 international standard without performance degradation. Their very low loading capacitance also makes them ideal for protecting high speed signal pins such as DVI,USB2.0, and IEEE 1394.

### Features

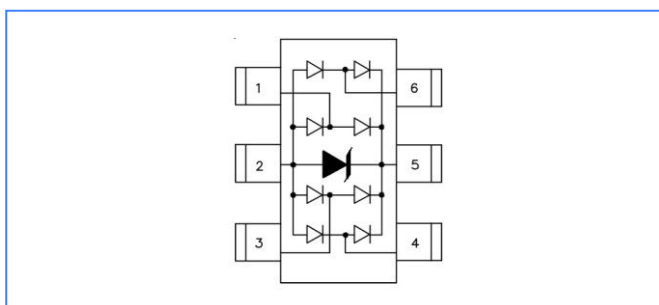
- Case :JEDEC SOT-23-6L package
- Low clamping voltage
- Small packaging options saves board space
- Low capacitance :3.5 pF typical
- Protection for 4 Lines
- Compatible with IEC 61000-4-2(ESD) :Air 30KV , Contact 30KV
- Compatible with IEC 61000-4-5(Surge):30A ,8/20 uS - level 2 (line-GND)&Level 3 (Line-Line)

### Applications

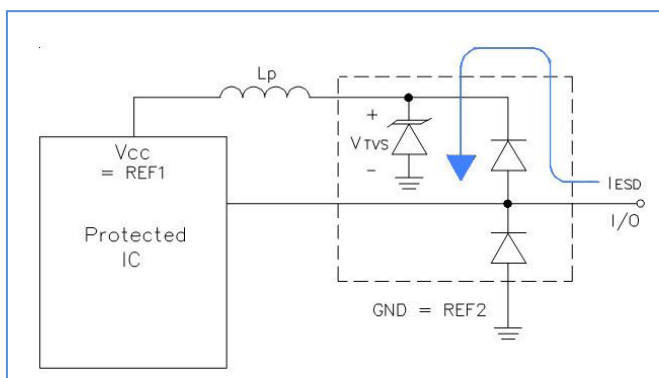
- USB Power and Data Line Protection
- 10/100 Ethernet
- Video Graphics Cards
- SIM Ports
- ATM Interfaces
- Montors and Flat Panel Displays
- Digital Video Interface(DVI)
- IEEE 1394 Fire wire Ports



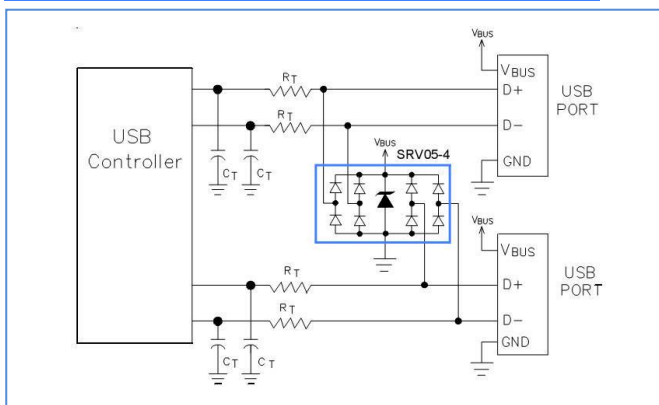
### Functional Diagram



### Rail-to-Rail Protection



### Dual USB Port Protection



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

Parameter	Symbol	Value	Units
Peak Current (tp =8/20 μ s)	PPK	450	W
IEC61000-4-2 (Contact)	VESD	±30	kV
IEC61000-4-2 (Air)	VESD	±30	kV
Lead Soldering Temperature	TL	260 (10 sec)	° C
Operating Temperature	TJ	-50 to 125	° C
Storage Temperature Range	TSTG	-50 to 150	° C

**Electrical Characteristics (TA = 25 °C unless otherwise noted)**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	VRWM	Any I/O pin to ground			5	V
Reverse Breakdown Voltage	VBR	It = 1mA Any I/O pin to ground	6			V
Reverse Leakage Current	IR	VRWM =5.0V, T=25°C Any I/O pin to ground			1	μ A
Clamping Voltage	VC	IPP = 1A, tP=8/20μs Any I/O pin to ground		9	10	V
	VC	IPP =20A, tP=8/20μs Any I/O pin to ground		19	20	V
Junction Capacitance	CJ1	VR=0V, f = 1MHz Between I/O pins		1.6	2.5	pF
	CJ2	VR=0V, f = 1MHz Any I/O pin to ground		3.2	5	pF

Characteristics Curves

Figure 1-Pulse Waveform

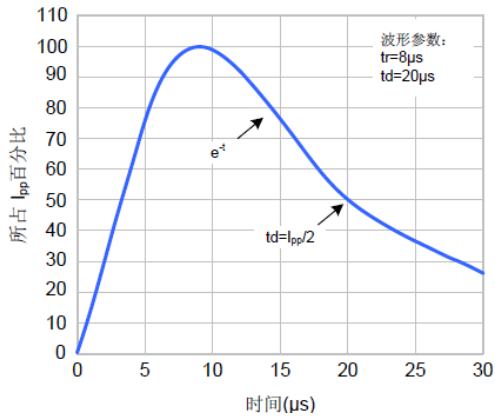


Figure 2- ESD Pulse Waveform (according to IEC 61000-4-2)

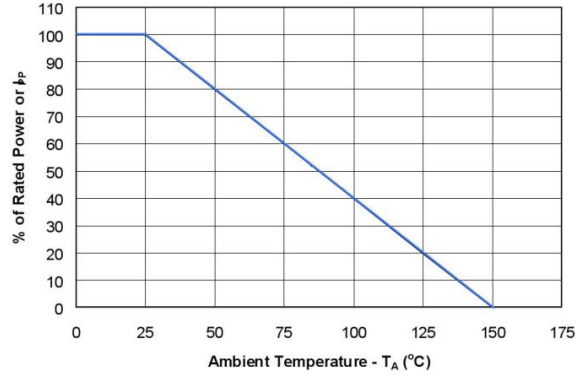
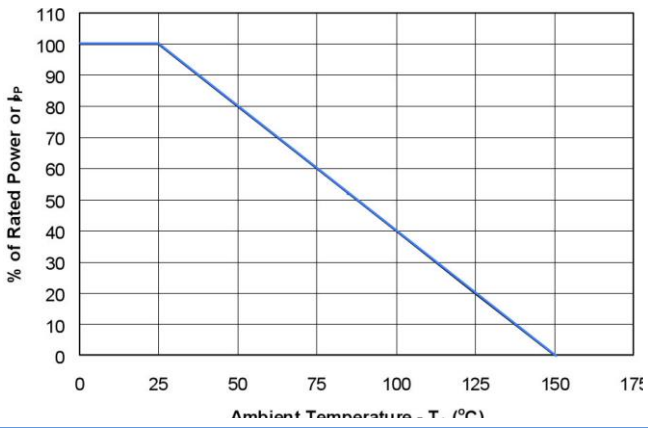
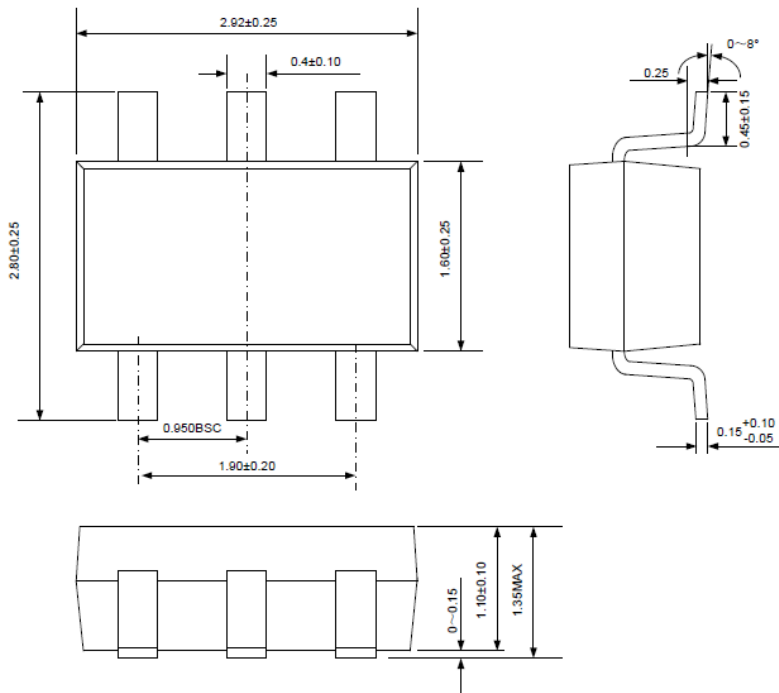


Figure 3- Power Derating Curve



PACKAGE OUTLINE DIMENSIONS in millimeters:SOT23-6L





## Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.