SRV05-4HTG-D
ESD PROTECTION DIODE

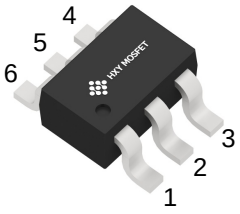
Discription

The SRV05-4HTG-D is alow capacitance TVS (Transient Voltage Suppressor) array designed to protect high speed data interfaces.It has been specifically designed to protect sensitive electronic components which are connected to data and transmission lines from over-stress caused by ESD Supports High-Speed Differential Data Rates.

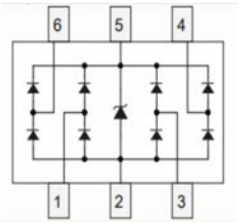
The SRV05-4HTG-D incorporates four pairs of low capacitance steering diodes plus a TvS diode.

The SRV05-4HTG-D may be used to provide ESD protection up to ±25kV(contact discharge) according to IEC61000-4-2, and withstand peak pulse current up to 12A(8/20us) according to IEC61000-4-5.

The SRV05-4 is available in SOT-23-6L package. Standard products are Pb-free and Halogen-free.



SOT-23-6L



Circuit Diagram

Features

★ Protects 4 I/O Lines
★ Low Working Voltage: 5 V
★ Low Clamping Voltage
★ Ultra-low Capacitance: 1.5 pF (I/O to GND)
★ Response time is typically <1ns
★ IEC61000-4-2(ESD)±25 kV(air),±25 kV(contact)
★ IEC61000-4-5 (Surge) 4 A (1/O to GND)
★ IEC61000-4-5(Surge)17 A (VDD to GND)
★ RoHS compliant

Applications

★ End Equipment
-Set-Top Boxes
-DTVs
-Laptop/Desktop
-Electronic Point of Sale(EPOS)
★ Interfaces
-USB 2.0
-HDM 1.3/1.4
-LVDS
-SATS
-10/100/1000 Ethernet
-Video Graphics Cards-SIM Ports

Ordering Information

Product ID	Pack	Qty(PCS)
SRV05-4HTG-D	SOT-23-6L	3000

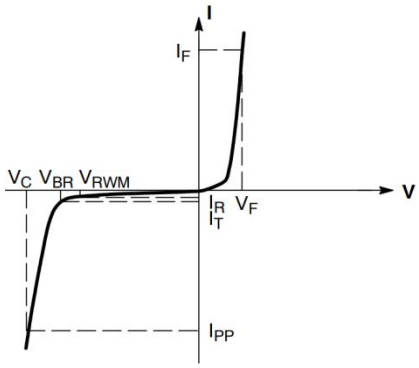
Absolute Ratings(Tamb = 25°C)

Paramete	Symbol	Value	Unit
Peak Pulse Power (8/20μs)(VDD-GND)	P_{pk}	200	W
ESD per IEC61000-4-2 (Air) ESD per IEC61000-4-2 (Contact)	V_{ESD}	±20 ±20	KV
Operating Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C

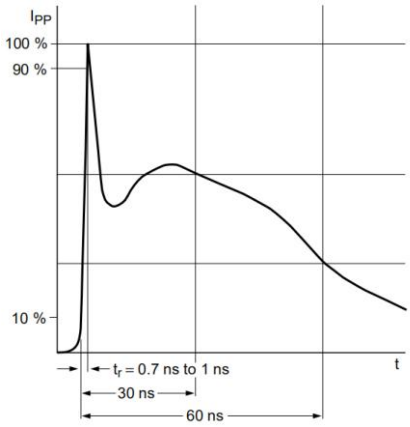
Electrical Characteristics(Tamb = 25°C)

Paramete	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}	--	--	5	V	
Breakdown Voltage	V_{BR}	6.0	--	--	V	I_T=1mA
Leakage Current ILeak	I_R	--	--	1.0	uA	V_{RWM}=5V
Clamping Voltage（I/O-GND）	V_C	--	9	--	V	I_{PP}=1A,Tp=8/20μs
Clamping Voltage(V_{DD}-GND)	V_C	--	16	--	V	I_{PP}=5.5A,Tp=8/20μs
Junction Capacitance (I/O to GND)	C_J	--	1.5	--	pF	V_R=0V, f=1MHz
Junction Capacitance (I/O to I/O)	C_J	--	0.75	--	pF	V_R=0V, f=1MHz

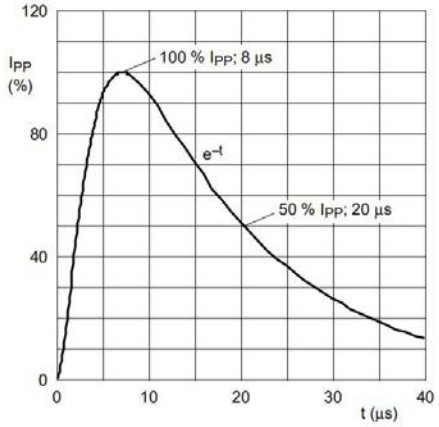
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F
P_{pk}	Peak Power Dissipation
C	Max. Capacitance @ V_R = 0 and f = 1.0 MHz



Typical Characteristics

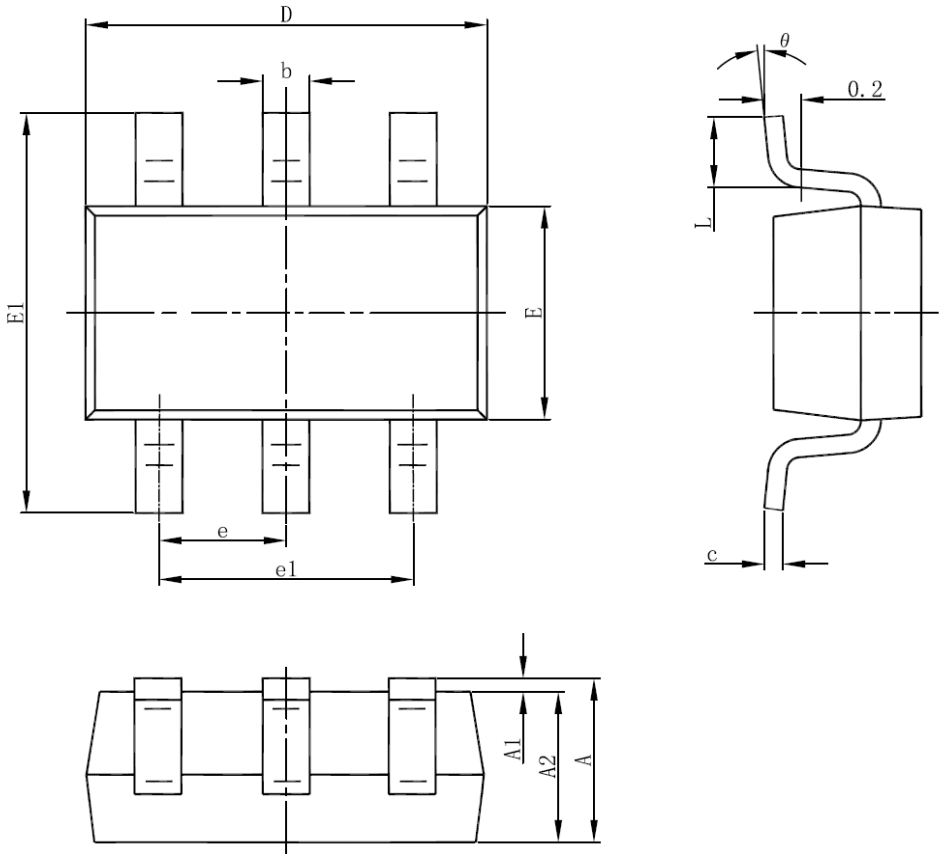


IEC61000−4−2 Waveform



8/20µs Pulse Waveform

SOT-23-6L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

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