SRV05-4HTG-D
ESD PROTECTION DIODE

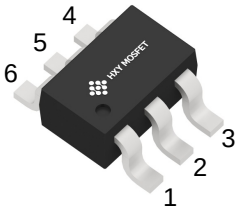
Discription

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.

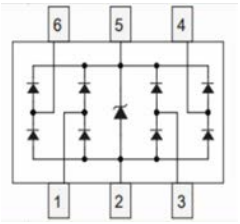
The SRV05-4HTG-D incorporates four pairs of low capacitance steering diodes plus a TvS diode.

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

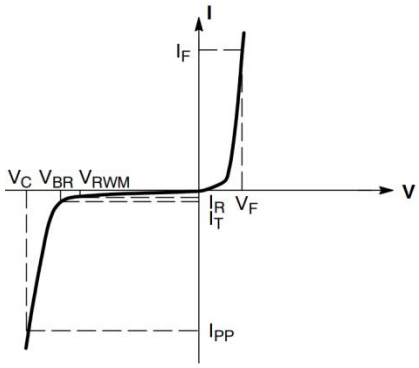
Absolute Ratings(Tamb = 25°C)

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

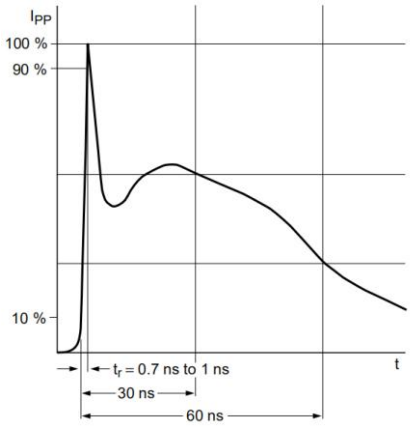
Electrical Characteristics(Tamb = 25°C)

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

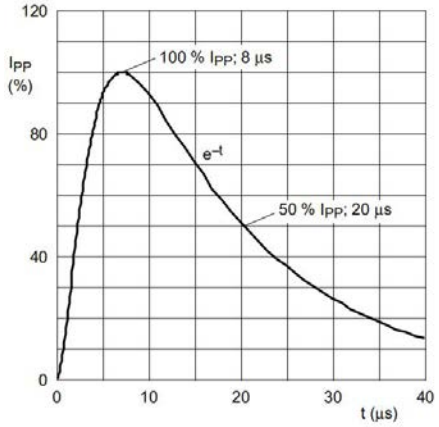
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F
P_{pk}	Peak Power Dissipation
C	Max.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



Typical Characteristics

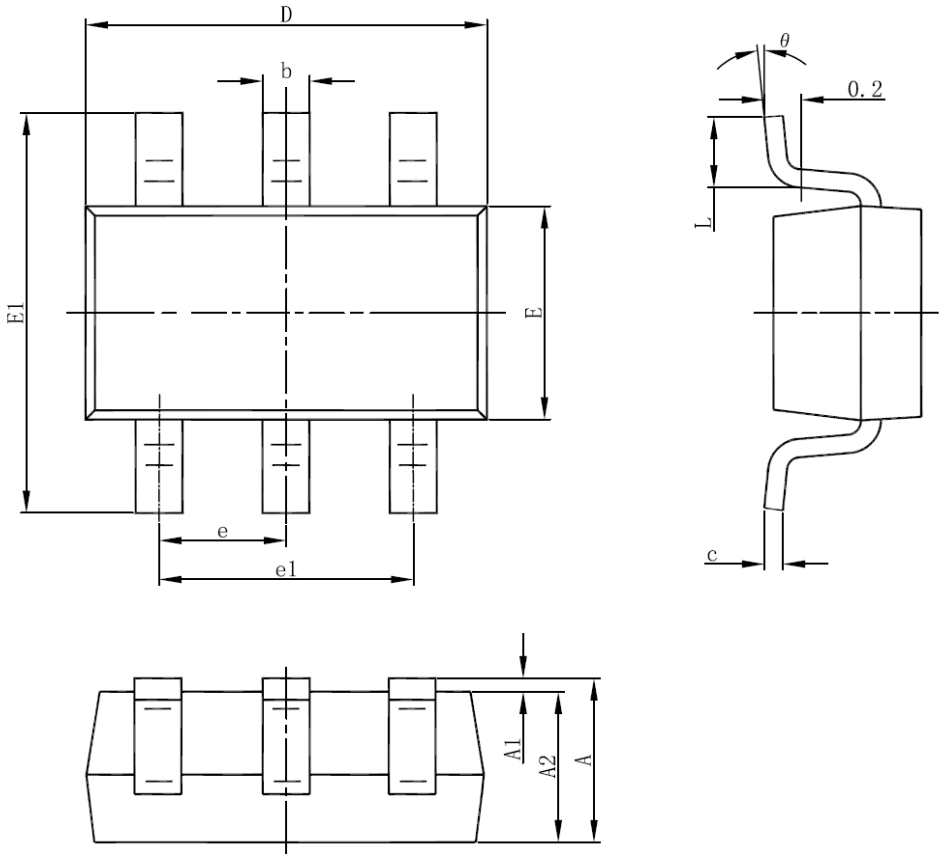


IEC61000−4−2 Waveform



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°

Attention

■ Any and all HUA XUAN YANG ELECTRONICS products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your HUA XUAN YANG ELECTRONICS representative nearest you before using any HUA XUAN YANG ELECTRONICS products described or contained herein in such applications.

■ HUA XUAN YANG ELECTRONICS assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein.

■ Specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.

■ HUA XUAN YANG ELECTRONICS CO.,LTD. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could
give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.

■ In the event that any or all HUA XUAN YANG ELECTRONICS products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.

■ No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of HUA XUAN YANG ELECTRONICS CO.,LTD.

■ Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. HUA XUAN YANG ELECTRONICS believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

■ Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the HUA XUAN YANG ELECTRONICS product that you intend to use.

Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

HXY MOSFET:

HAD8542ARZ SS5150B HC3D10170A HESDNC5VB1AF-B HT7150 HXY2101EI HXY8205ES TPSMB28A-VR BZT52C13 HMCP602-I/SN HT7540-1 MMBT3904T P6SMB33CA SQJA04EP-T1_BE3 SS510C TPSMB100CA-VR P6SMB200A MAX487ESA SS1045 HC4D20120A PESD5V0S1BB US2M DTC143ZE HOPA2340UA P6SMB36CA SD15C SS10100 BZT52C3V3S HXY2300MI IRLML6246PBF