

HSD5Zxx Series

Unidirectional TVS Diodes

DESCRIPTION

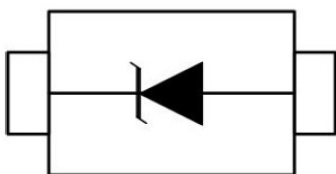
The HSD5Zxx Series is designed for applications requiring transient overvoltage protection capability. They are intended for use in voltage and ESD sensitive equipment such as computers, printers, business machines, communication systems, medical equipment and other applications. These devices are ideal for situations where board space is at a premium.

This series has been specifically designed to protect sensitive components which are connected to power, data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

ORDERING INFORMATION

- ✧ Device: HSD5Zxx
- ✧ Package: SOD-523
- ✧ Material: RoHS compliant & Halogen free
- ✧ Packing: Tape & Reel
- ✧ Quantity per reel: 3,000pcs

PIN CONFIGURATION



FEATURES

- ✧ IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (Contact)
 $\pm 30\text{kV}$ (Air)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ Protects one I/O line (unidirectional)
- ✧ Low clamping voltage
- ✧ Working voltages: 3.3V to 36V
- ✧ Low leakage current

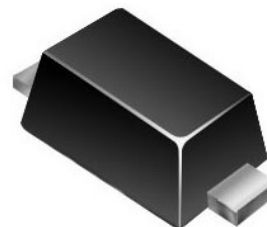
MACHANICAL DATA

- ✧ SOD-523 package
- ✧ Flammability Rating: UL 94V-0
- ✧ Packaging: Tape and Reel
- ✧ High temperature soldering guaranteed:
260°C/10s
- ✧ Reel size: 7 inch

APPLICATIONS

- ✧ Cell Phone Handsets and Accessories
- ✧ Microprocessor based equipment
- ✧ Personal Digital Assistants (PDA's)
- ✧ Notebooks, Desktops, and Servers
- ✧ Portable Instrumentation
- ✧ Networking and Telecom
- ✧ Serial and Parallel Ports
- ✧ Peripherals

PACKAGE OUTLINE



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ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Contact)	± 30	kV
	ESD per IEC 61000-4-2 (Air)	± 30	
T_{OPT}	Operating Temperature	-55/+150	$^{\circ}C$
T_{STG}	Storage Temperature	-55/+150	$^{\circ}C$
T_L	Lead Soldering Temperature	260 (10 sec.)	$^{\circ}C$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}C$)

PART NUMBER	DEVICE MARKING	V _{RWM} (V) Max	V _B (V) Min	I _T (mA)	V _{C@1A} (V) Max	V _C (V) Max (@A)		I _R (μA) Max	P _{pk} (W) Max	C _T (pF) Max
HSD5Z03	03W	3.3	4	1	6.5	16.0	32	5	512	450
HSD5Z05	05W	5	6	1	9.8	18.5	27	2	500	300
HSD5Z08	08W	8	8.5	1	10.5	20	23	1	460	240
HSD5Z12	12W	12	13.3	1	19	28	14	1	392	130
HSD5Z15	15W	15	16.7	1	24	32	12	1	384	120
HSD5Z18	18W	18	20.0	1	29	35	10	1	350	100
HSD5Z24	24W	24	26.7	1	43	45	8	1	360	80
HSD5Z36	36W	36	40	1	60	73	5	1	365	60

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ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20 μ s Waveform per IEC61000-4-5

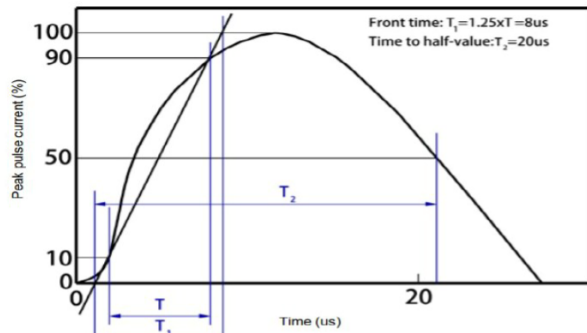


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

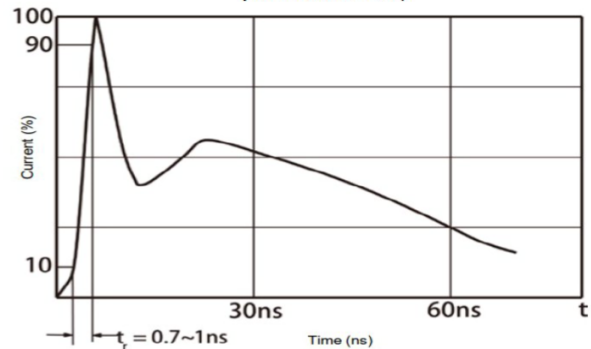


Fig 3 Voltage vs Capacitance

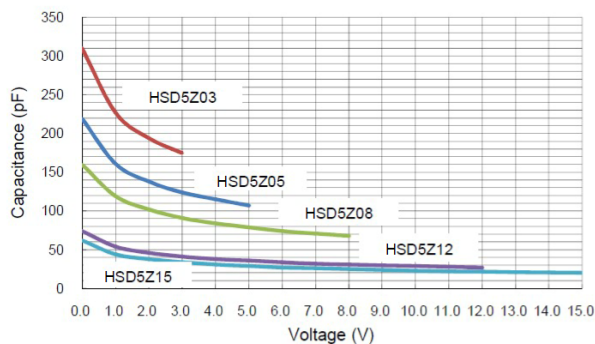


Fig 4 Voltage vs Capacitance

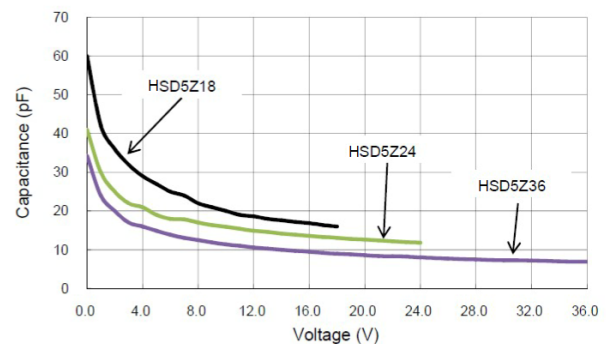


Fig 5 Clamping Voltage vs Peak Pulse Current

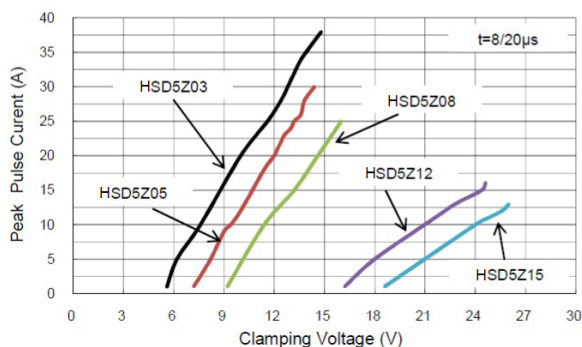
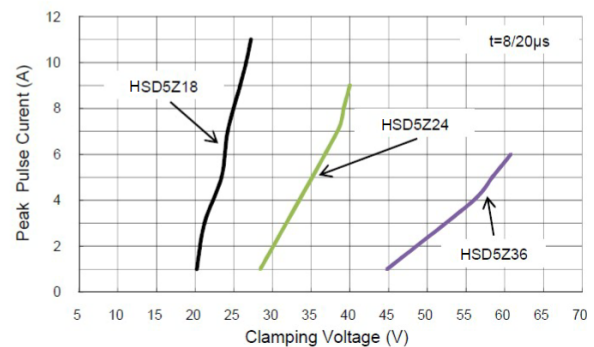


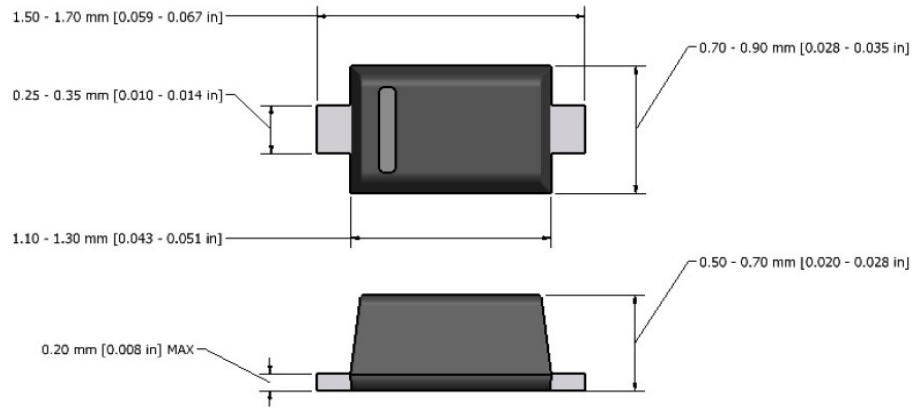
Fig 6 Clamping Voltage vs Peak Pulse Current



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SOD-523 PACKAGE OUTLINE DIMENSIONS



Note: Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.