Unidirectional TVS Diodes

1 General Description

1.1 Features

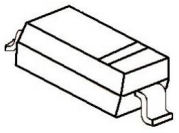
- IEC61000-4-2(ESD) ±15kV(air), ±8kV(contact)
- IEC61000-4-4(EFT) 40A(5/50ηs)
- 350Watts Peak Pulse Power per (tp=8/20us)
- Protects one I/O line(unidirectional)
- Low clamping voltage
- Working voltages: 3.3V to 36V
- Low leakage current

Working Voltage
3.3-36V
Peak Pulse Power
350W

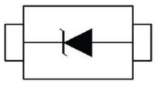
1.2 Description

- The SDxx Series is designed for applications requiring transient over voltage 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.

Package outline



Pin Configuration



1.3 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

1.4 Mechanical Data

- SOD-323 Package
- Flammability Rating: UL 94V-0
- High temperature soldering guaranteed: 260℃/10s

2 Maximum Ratings(TA=25℃ RH=40%-75% Unless otherwise specified)

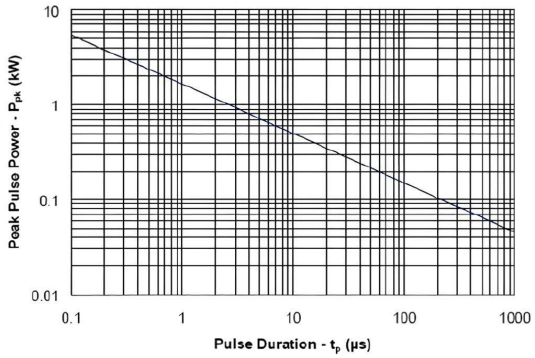
PARAMETER	SYMBOL	VALUE	UNIT
ESD per IEC61000-4-2(Air)	V_{ESD}	±30	KV
ESD per IEC61000-4-2(Contact)	V_{ESD}	±30	KV
Peak Pulse Power (8/20us)	P_{PP}	350	W
Operating Temperature	T_{OPT}	-55 to +150	℃
Storage Temperature	T_{STG}	-55 to +150	℃
Lead Soldering Temperature	T_L	260(10 sec.)	℃

3 Electrical Characteristics(TA=25℃ Unless otherwise specified,VF=0.9V Max @IF=10mA for all types)

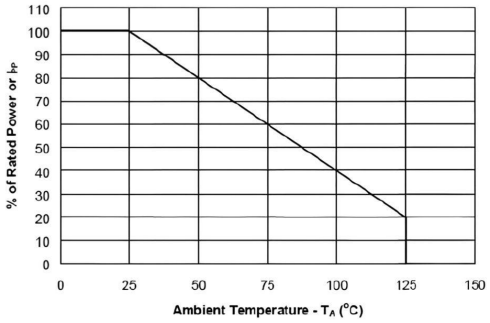
Part Number	Marking	V_{RWM}(V)	V_B(V)	I_T(mA)	V_C(V)@1A	V_C(V)		I_R(μA)	CT (pF)
		Max	Min		Max	Max	@A	Max	Max.
SD03	03W	3.3	4.0	1	6.5	14	20	40	450
SD05	05W	5	6	1	9.8	18	17	10	300
SD12	12W	12	13.3	1	19	32	11	1	130
SD15	15W	15	16.7	1	24	38	10	1	120
SD18	18W	18	20.0	1	29	45	9	1	100
SD20	20W	20	22.3	1	35	50	8	1	90
SD24	24W	24	26.7	1	43	52	7	1	80
SD36	36W	36	40.0	1	60	75	5	1	60

4 Characteristics Curves(TA=25℃ Unless otherwise specified)

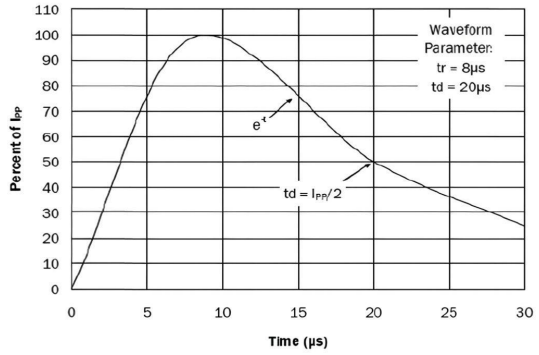
Non-Repetitive Peak Pulse Power vs. Pulse Time



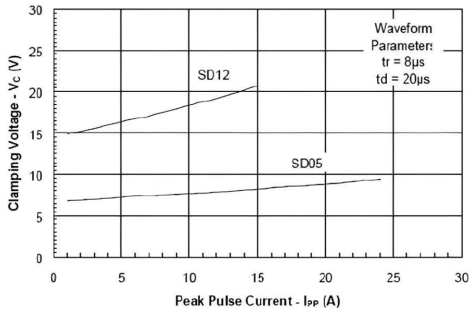
Power Derating Curve



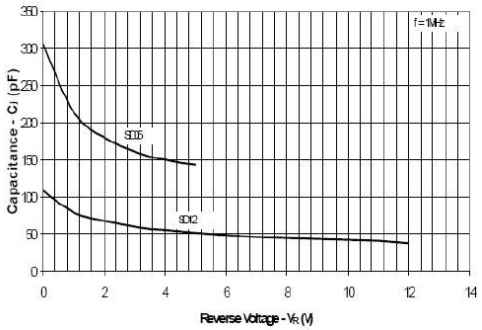
Pulse Waveform



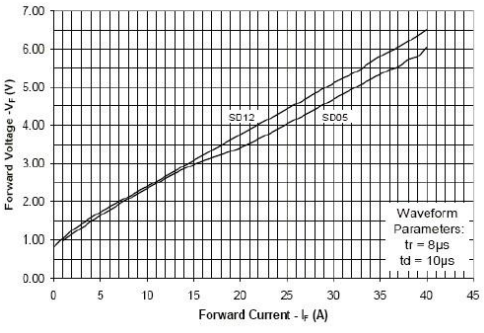
Clamping Voltage vs. Peak Pulse Current



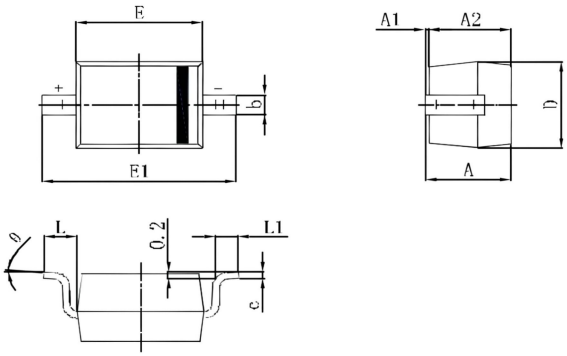
Capacitance vs. Reverse Voltage



Forward Voltage vs. Forward Current



5 Package Outline Dimensions



Symbol	Millimeters	
	Min	Max
A	-	1.000
A1	0	0.100
A2	0.800	0.900
b	0.250	0.350
c	0.080	0.150
D	1.200	1.400
E	1.600	1.800
E1	2.500	2.700
L	0.475 REF	
L1	0.250	0.400
θ	0°	8°

6 Ordering Information

PACKAGE	UNIT WEIGHT (g)	PACKAGING	REEL (pcs)
SOD-323	Approximately 0.03	Reel	3000

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