SDxxC Series

Bi-directional TVS Diodes

SOD-323 Plastic-Encapsulate ESD Protection Diodes

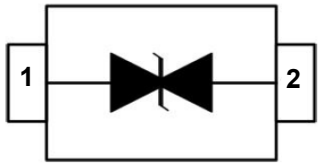
Features

- 350 Watts Peak Pulse Power per (8/20μs)
- IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Protects one I/O line (bidirectional)
- Low clamping voltage
- Low leakage current
- Working voltages : 3.3V, 5V, 8V, 12V, 15V, 18V , 20V, 24V, 36V
- Meets MSL 1 Requirements

Pin Configuration



Circuit Diagram



Mechanical Characteristics

- Package: SOD-323
- Flammability Rating: UL 94V-0
- Terminal: Matte tin plated.
- High temperature soldering guaranted: 260℃/10s
- Packaging: Tape and Reel

RoHS COMPLIANT

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

Maximum Ratings T_A = 25°C unless otherwise specified

Parameter	Symbol	Value	Unit
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	± 30 ± 30	KV
Peak Pulse Power(tp=8/20us waveform)	P_{PP}	350	W
Operating Temperature	T_{OPT}	−55 to +150	°C
Storage Temperature	T_{STG}	−55 to +150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260(10 sec.)	°C

The above data are for reference only.

Electrical Characteristics (T_A=25°C unless otherwise specified)

PART NUMBER	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.)	C_T (pF) (max.)
SD03C	3.3	4	1	7.5	16	20	40	450
SD05C	5	6	1	9.8	18	17	10	300
SD08C	8	8.5	1	13.4	24	15	2	120
SD12C	12	13.3	1	19	32	11	1	75
SD15C	15	16.7	1	24	38	10	1	68
SD18C	18	20.0	1	29	45	9	1	57
SD20C	20	22.3	1	35	50	8	1	52
SD24C	24	26.7	1	43	52	7	1	50
SD36C	36	40	1	60	75	4.5	1	35

ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20μs Waveform per IEC61000-4-5

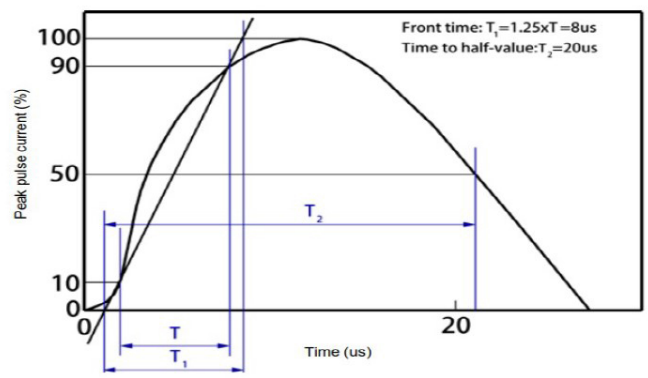


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

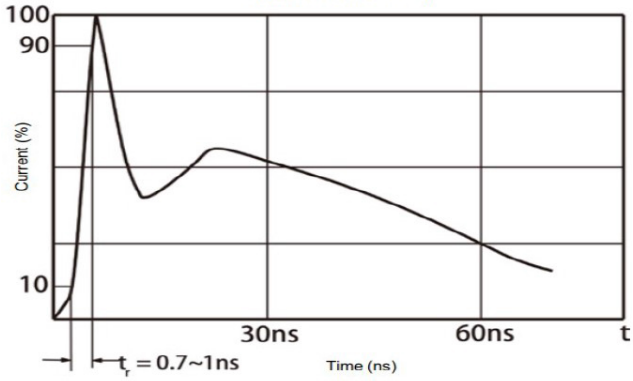


Fig 3 Voltage vs Capacitance

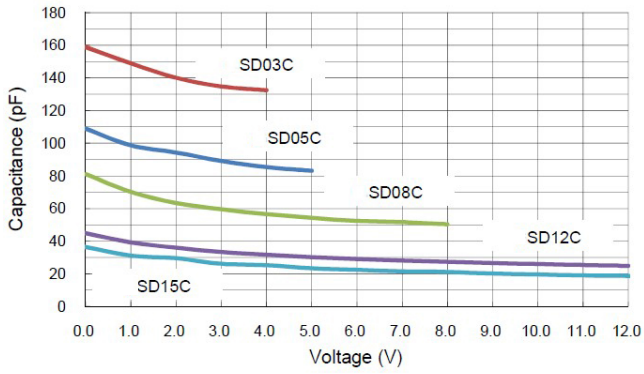


Fig 4 Voltage vs Capacitance

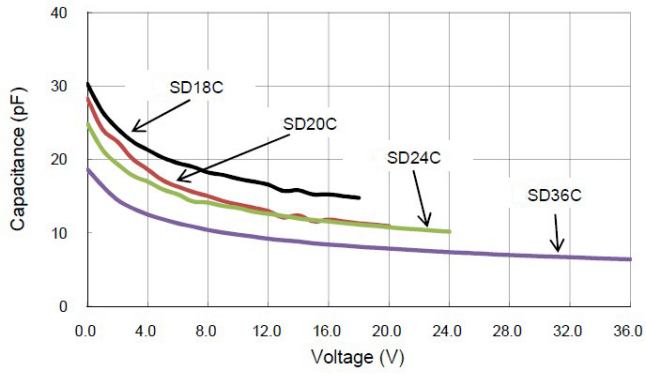


Fig 5 Clamping Voltage vs Peak Pulse Current

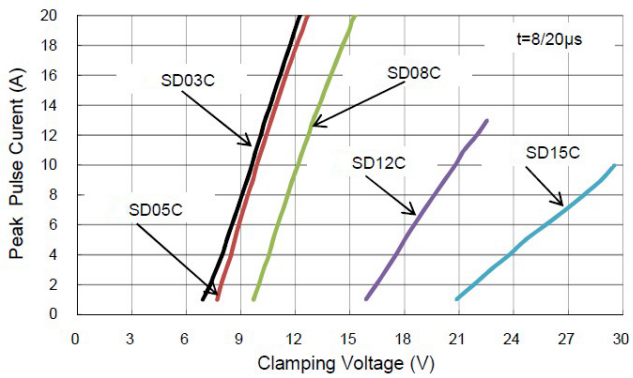
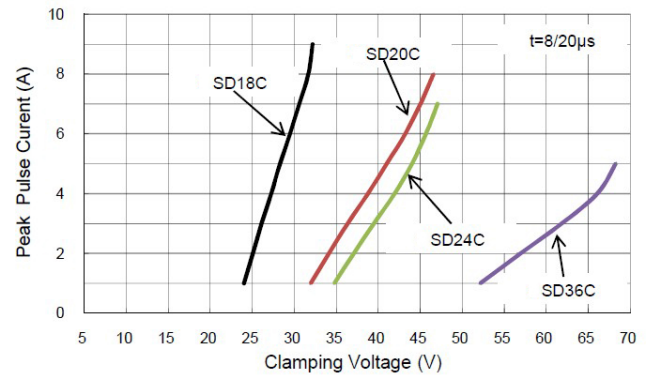
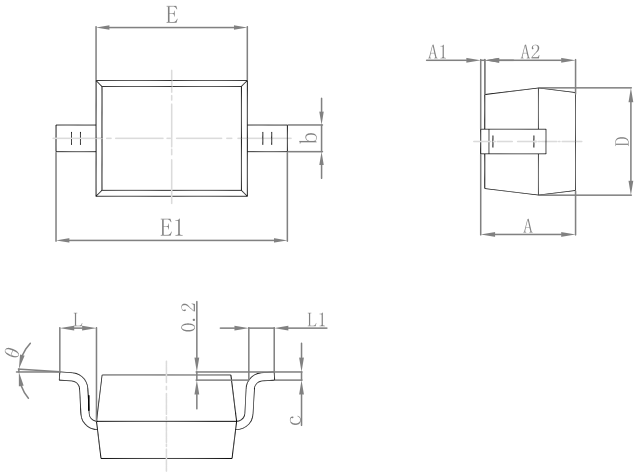


Fig 6 Clamping Voltage vs Peak Pulse Current



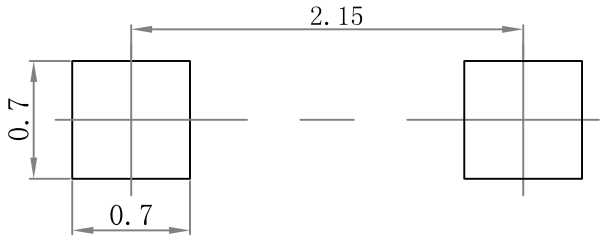
Outlitne Drawing

SOD-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.80	1.10	0.032	0.043
A1	0.00	0.20	0.000	0.008
A2	0.70	1.05	0.028	0.042
b	0.20	0.40	0.007	0.016
C	0.05	0.20	0.0019	0.0079
D	1.10	1.45	0.043	0.057
E	1.40	1.80	0.063	0.070
E1	2.50	2.80	0.098	0.110
L	0.35	0.60	0.014	0.024
L1	0.15	0.45	0.006	0.016
θ	0°	9°	0°	9°

Suggested Pad Layout



Note:
1.Controlling dimension:in/millimeters.
2.General tolerance: ±0.05mm.
3.The pad layout is for reference purposes only.

PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
SOD-323	7'	178	3000	190*190*190	45,000	400*400*220	180,000