SDXX
3.3V~36V Unidirectional TVS Diode

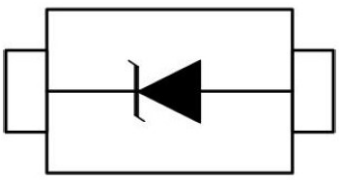
Description

The SDXX 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, 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 form overvoltage caused by ESD,CDE(Cable discharge Events),and EFT(electrical fast transients)

Features

- 350W peak pulse power (8/20us)
- Protects one data or power line
- Ultra low leakage: nA level
- Stand−off Voltage: 3.3 V ~ 36 V
- Ultra low clamping voltage
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±15kV
  Contact discharge: ±8kV
- IEC61000-4-4 (EFT) 40A (5/50ns)
- RoHS Compliant

Dimensions & Symbol（Unit: mm Max）



Mechanical Characteristics

- Package: SOD-323
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below

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

Marking information

Details marking code reference customer approval list

Ordering Information

Part Number	Packaging	Reel Size
SD03	3000/Tape & Reel	7 inch
SD05	3000/Tape & Reel	7 inch
SD08	3000/Tape & Reel	7 inch
SD12	3000/Tape & Reel	7 inch
SD15	3000/Tape & Reel	7 inch
SD18	3000/Tape & Reel	7 inch
SD20	3000/Tape & Reel	7 inch
SD24	3000/Tape & Reel	7 inch
SD36	3000/Tape & Reel	7 inch

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±15 ±8	kV
P_{PP}	Peak Pulse Power (8/20μs)	350	W
T_{OPT}	Operating Temperature	-55/+150	°C
T_{STG}	Storage Temperature	-55/+150	°C
T_L	Lead Soldering Temperature	260 (10 sec.)	°C

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

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.)	C_T (pF) (max.)
SD03	03W	3.3	4	1	6.5	14	20	40	450
SD05	05W	5	6	1	9.8	18	17	10	300
SD08	08W	8	8.5	1	10.5	24	15	1	240
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	1	60	75	5	1	60

Typical Performance Characteristics (T_A=25°C unless otherwise Specified)

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

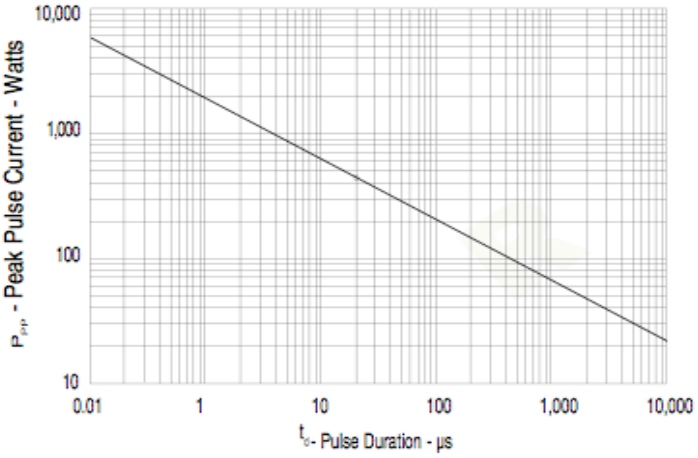


FIGURE 2
PULSE WAVE FORM

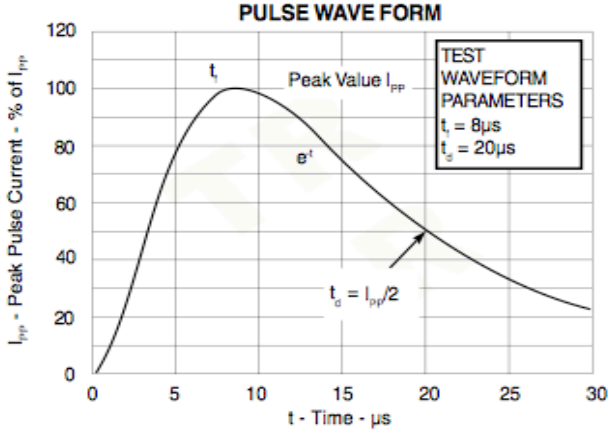
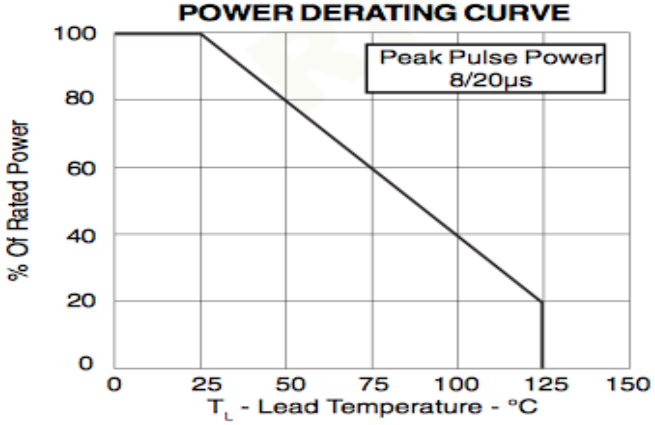
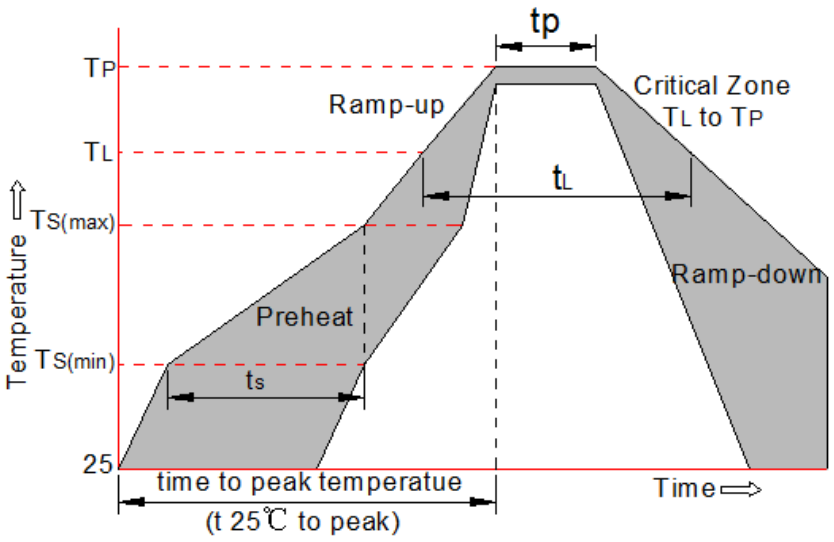


FIGURE 3
POWER DERATING CURVE

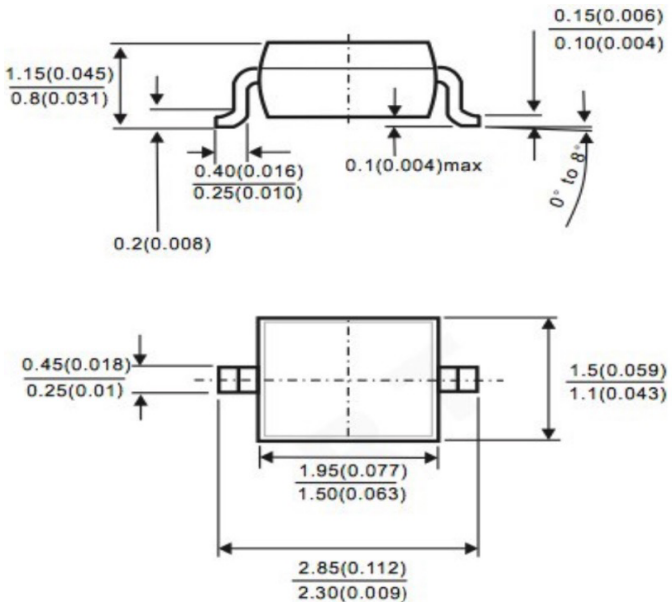


Soldering parameters

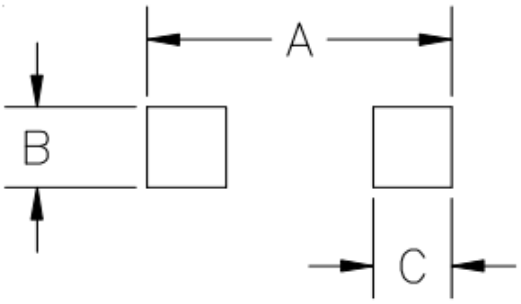
Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃



Package mechanical data (mm/inch)



Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
A	3.15	0.120
B	0.80	0.031
C	0.80	0.031

Contact information

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