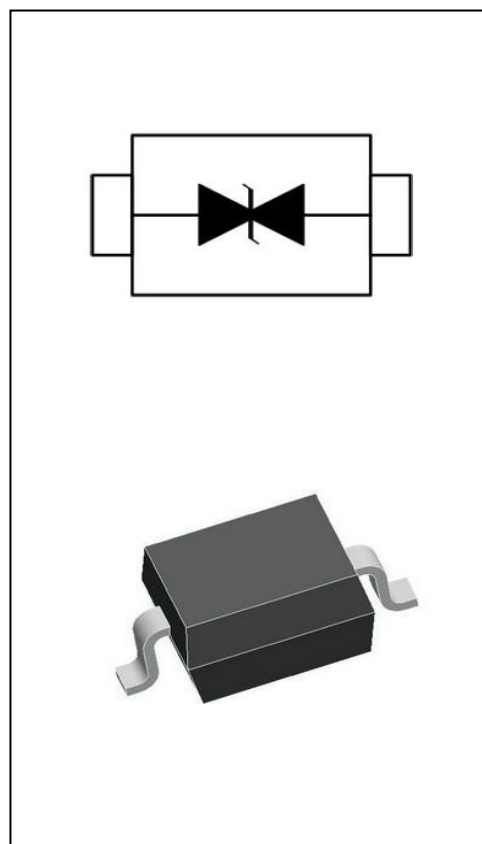


DESCRIPTION

The SDxxC 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).

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.



FEATURES

- ✧ IEC61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact).
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns).
- ✧ 350 Watts Peak Pulse Power per (tp=8/20 μs).
- ✧ Protects one I/O line (unidirectional).
- ✧ Low clamping voltage.
- ✧ Working voltages : 3.3V to 36V.
- ✧ Low leakage current.

MECHANICAL CHARACTERISTICS

- ✧ SOD-323 package.
- ✧ Flammability Rating: UL 94V-0.
- ✧ Packaging: Tape and Reel.
- ✧ High temperature soldering guaranteed: 260°C/10s.
- ✧ Reel size: 7 inch.
- ✧ MSL 1.
- ✧ Material: Halogen free.
- ✧ Packing: Tape & Reel.

DEVICE CHARACTERISTICS
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppp	350	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	± 15 ± 8	kV
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$ unless otherwise specified)

PART NUMBER	V _{RWM} (V) (max.)	V _{BR} (V) (min.)	I _T (mA)	V _{C@1A} (V) (max.)	V _C (V) (max.) (@A)		I _R (mA) (max.)	C _J (pF) (max.)
SD03C	3.3	4.0	1	7.5	16.0	20	40	450
SD05C	5.0	6.0	1	9.8	18.0	17	10	200
SD08C	8.0	8.5	1	13.4	24.0	15	2	120
SD12C	12.0	13.3	1	19.0	32.0	11	1	75
SD15C	15.0	16.7	1	24.0	38.0	10	1	68
SD18C	18.0	20.0	1	29.0	45.0	9	1	57
SD20C	20.0	22.3	1	35.0	50.0	8	1	52
SD24C	24.0	26.7	1	43.0	52.0	7	1	50
SD36C	36.0	40.0	1	60.0	75.0	4.5	1	35

TYPICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$ unless otherwise Specified)

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

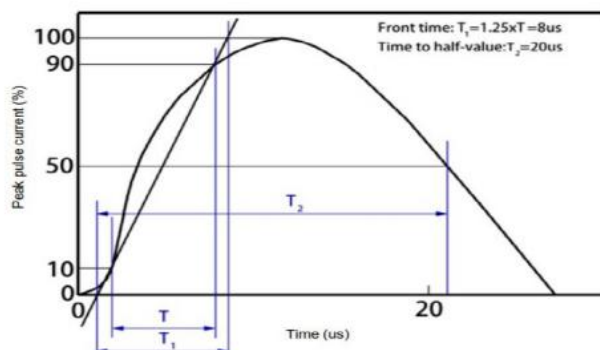


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

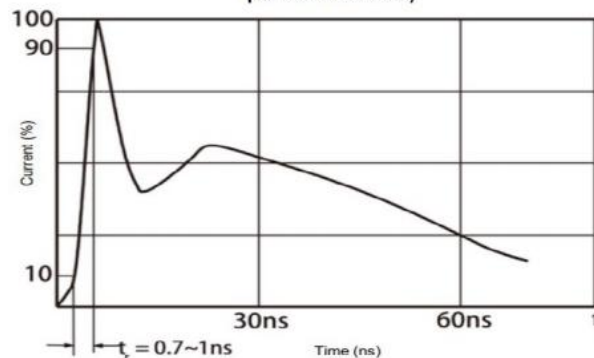


Fig 3 Voltage vs Capacitance

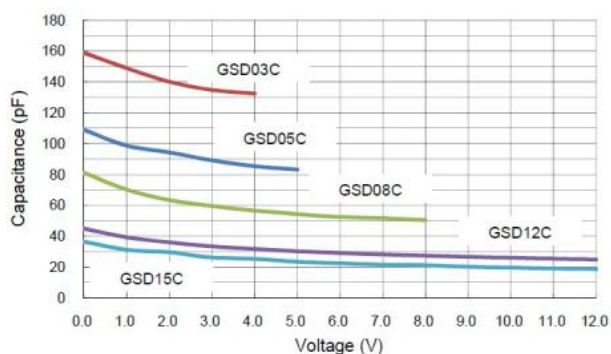


Fig 4 Voltage vs Capacitance

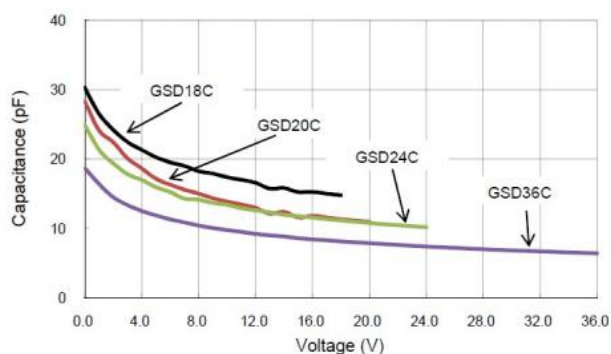


Fig 5 Clamping Voltage vs Peak Pulse Current

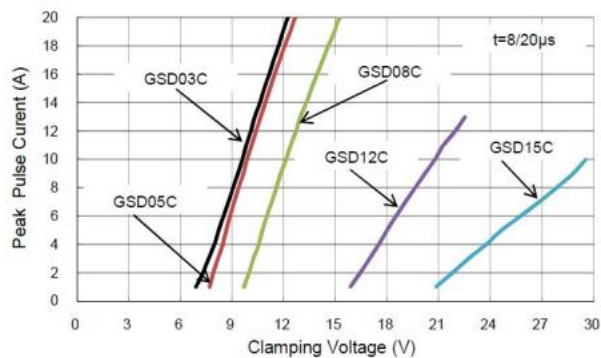
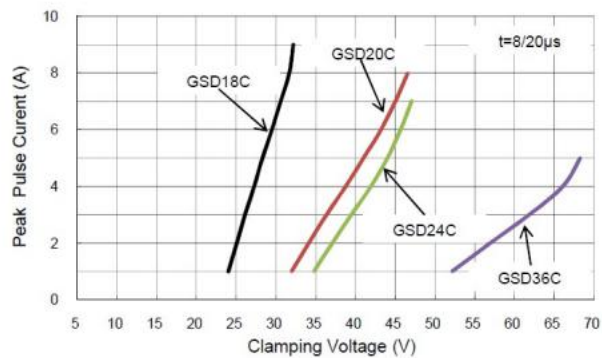
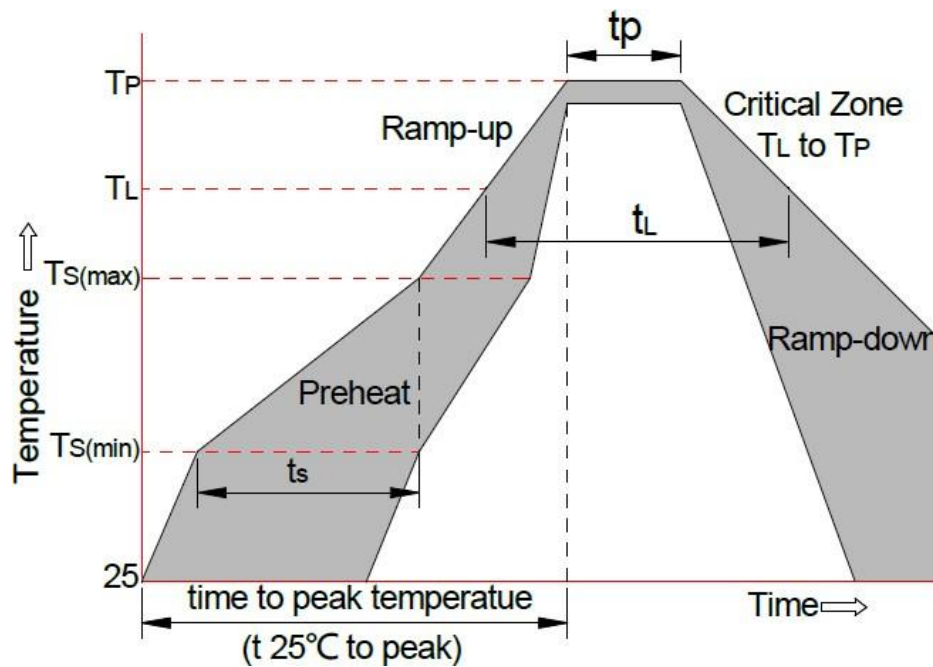
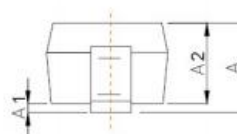
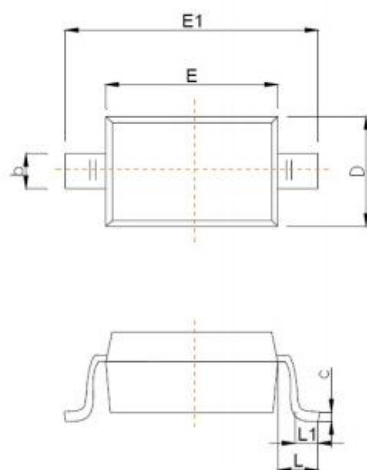


Fig 6 Clamping Voltage vs Peak Pulse Current

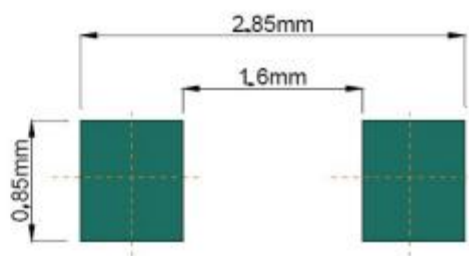


SOLDERING PARAMETERS


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

SOD-323 PACKAGE OUTLINE & DIMENSIONS


Symbol	Dimensions In Millimeters	
	Min	Max
A		1.00
A1	0.000	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
e	1.800	2.040
L	0.475 REF	
L1	0.250	0.400
θ	0°	8°


Recommended Pad outline

 Website: <http://www.jksemi.com>

For additional information, please contact your local Sales Representative.

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