

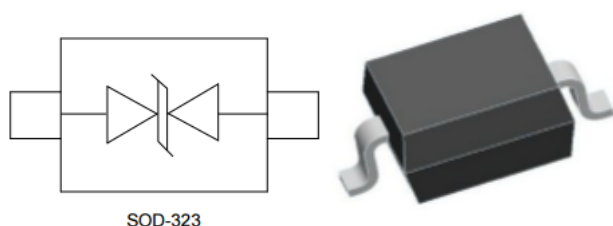
## Description

The SDXXC is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers and PDA's, using monolithic silicon technology to provide fast response time and ultra low ESD clamping voltage, making this device an ideal solution for protecting sensitive semiconductor components from damage. The SDXXC complies with the IEC 61000- 4-2 (ESD) standard with  $\pm 30\text{kV}$  air and  $\pm 30\text{kV}$  contact discharge. The SDXXC is assembled into a lead-free SOD- 323 package and will protect one unidirectional line. These devices will fit on the same PCB pad area as an 0805 MLV device.

## 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:  $\pm 15\text{kV}$
  - Contact discharge:  $\pm 8\text{kV}$
- 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.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below

## Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Peripherals
- Pagers Peripherals
- Desktop and Servers

## Marking information



Details marking code reference customer approval list

## Ordering Information

Part Number	Packaging	Reel Size
SD03C	3000/Tape & Reel	7 inch
SD05C	3000/Tape & Reel	7 inch
SD08C	3000/Tape & Reel	7 inch
SD12C	3000/Tape & Reel	7 inch
SD15C	3000/Tape & Reel	7 inch
SD18C	3000/Tape & Reel	7 inch
SD24C	3000/Tape & Reel	7 inch
SD36C	3000/Tape & Reel	7 inch

**Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)**

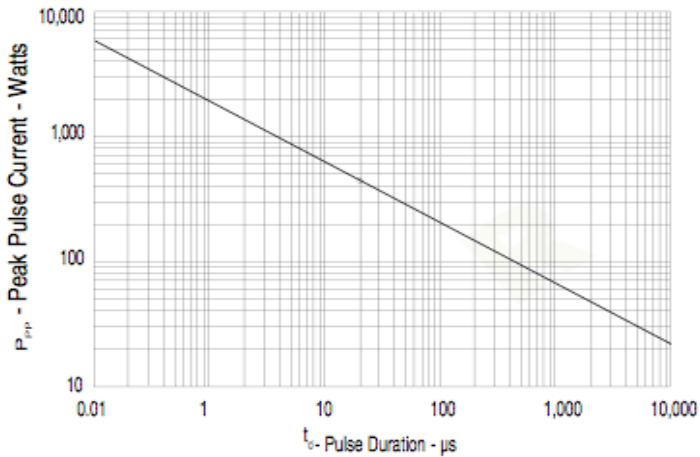
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (t <sub>p</sub> = 8/20μs)	P <sub>PP</sub>	350	Watts
Operating Temperature	T <sub>J</sub>	-55°C to 125°C	°C
Storage Temperature	T <sub>STG</sub>	-55°C to 150°C	°C

**Electrical Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)**

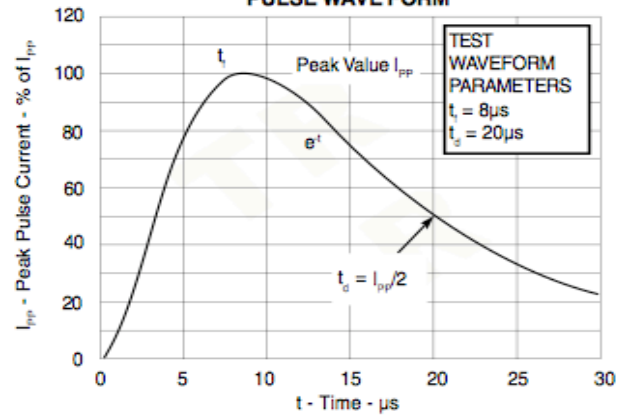
PART NUMBER	V <sub>RWM</sub>	V <sub>B</sub>	I <sub>T</sub>	V <sub>C@1A</sub>	V <sub>C</sub>		I <sub>R</sub>	C <sub>T</sub>
	(V) (max.)	(V) (min.)	(mA)	(V) (max.)	(V) (max.)	(@A)	(μA) (max.)	(pF) (max.)
SD03C	3.3	4.0	1	7.5	16.0	20	40	450
SD05C	5.0	6.0	1	9.8	18.0	17	10	200
SD08C	8.0	8.5	1	13.4	24.0	15	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 Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**

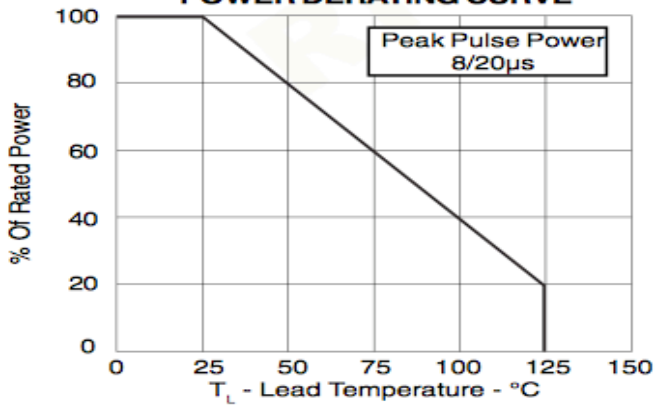
**FIGURE 1  
PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2  
PULSE WAVE FORM**

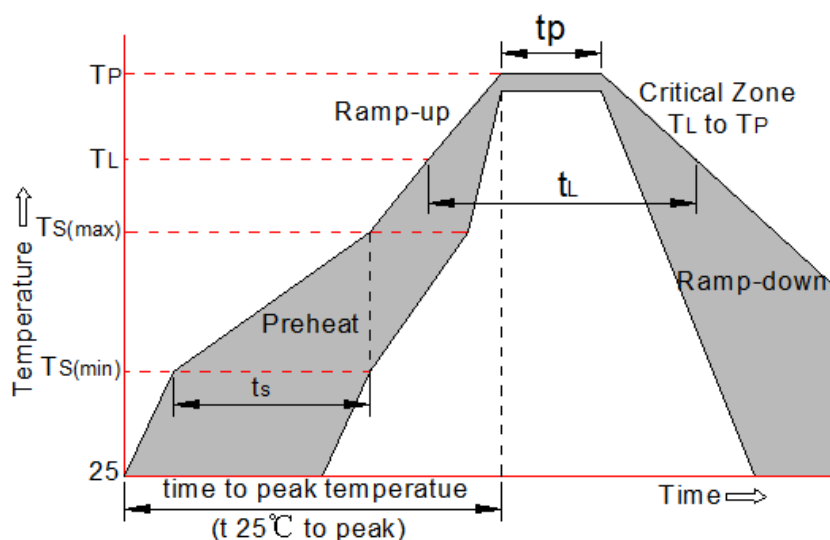


**FIGURE 3  
POWER DERATING CURVE**

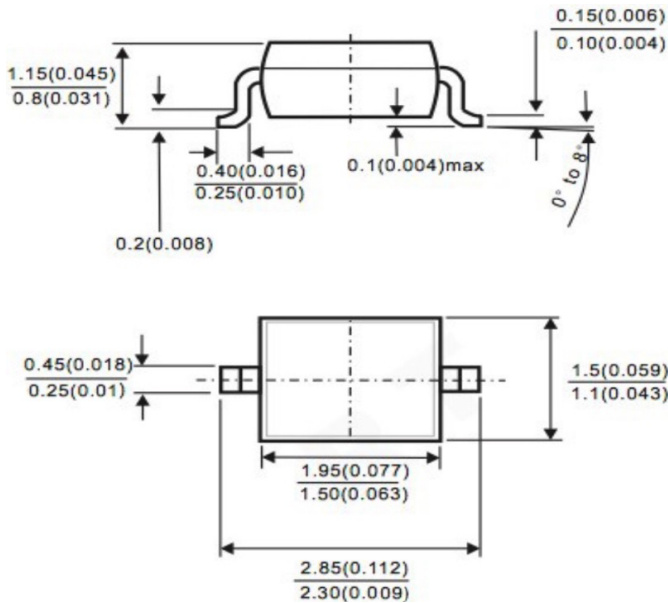


### Soldering parameters

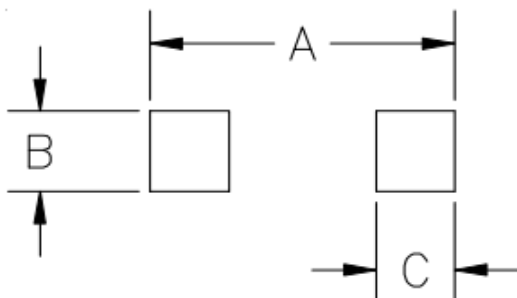
Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-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
Time 25°C to Peak Temp ( $T_p$ )		8 min. Max
Do not exceed		+260°C



**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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