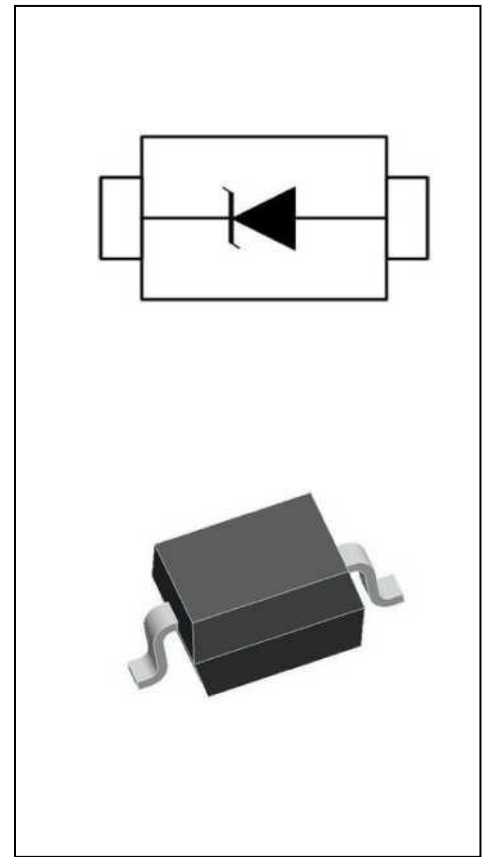


DESCRIPTION

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. This series has been specifically designed to protect sensitive components which are connected to power data and transmission lines from over voltage 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

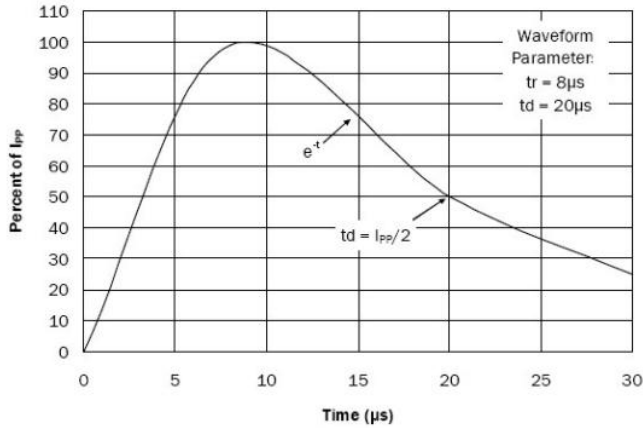
| Absolute Maximum Ratings (T_A=25°C unless otherwise specified) | | | |
|---|---------------|----------------|-------------|
| Parameter | Symbol | Value | Unit |
| Peak Pulse Power (8/20μs) | Ppp | 350 | W |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | VESD | ±15 ±8 | kV |
| Operating Temperature Range | TJ | -55 to +125 | °C |
| Storage Temperature Range | Tstg | -55 to +150 | °C |

ELECTRICAL CHARACTERISTICS(TA=25°C unless otherwise specified)

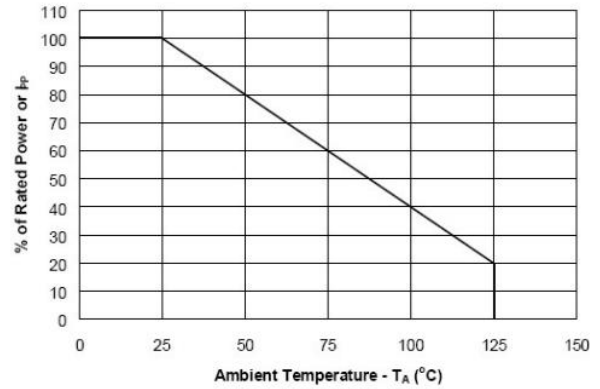
| PART NUMBER | V _{RWM} (V) (max.) | V _{BR} (V) (min.) | I _T (mA) | V _{C@1A} (V) (max.) | V _C (V) | | I _R (mA) (max.) | C _J (pF) (max.) |
|----------------|-----------------------------------|----------------------------------|------------------------|------------------------------------|-----------------------|------|----------------------------------|-------------------------------|
| | | | | | (max.) | (@A) | | |
| SD03 | 3.3 | 4 | 1 | 6.5 | 14 | 20 | 40 | 450 |
| SD05 | 5 | 6 | 1 | 9.8 | 18 | 17 | 10 | 300 |
| SD08 | 8 | 8.5 | 1 | 10.5 | 24 | 15 | 1 | 240 |
| SD12 | 12 | 13.3 | 1 | 19 | 32 | 11 | 1 | 130 |
| SD15 | 15 | 16.7 | 1 | 24 | 38 | 10 | 1 | 120 |
| SD18 | 18 | 20.0 | 1 | 29 | 45 | 9 | 1 | 100 |
| SD20 | 20 | 22.3 | 1 | 35 | 50 | 8 | 1 | 90 |
| SD24 | 24 | 26.7 | 1 | 43 | 52 | 7 | 1 | 80 |
| SD36 | 36 | 40 | 1 | 60 | 75 | 5 | 1 | 60 |

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

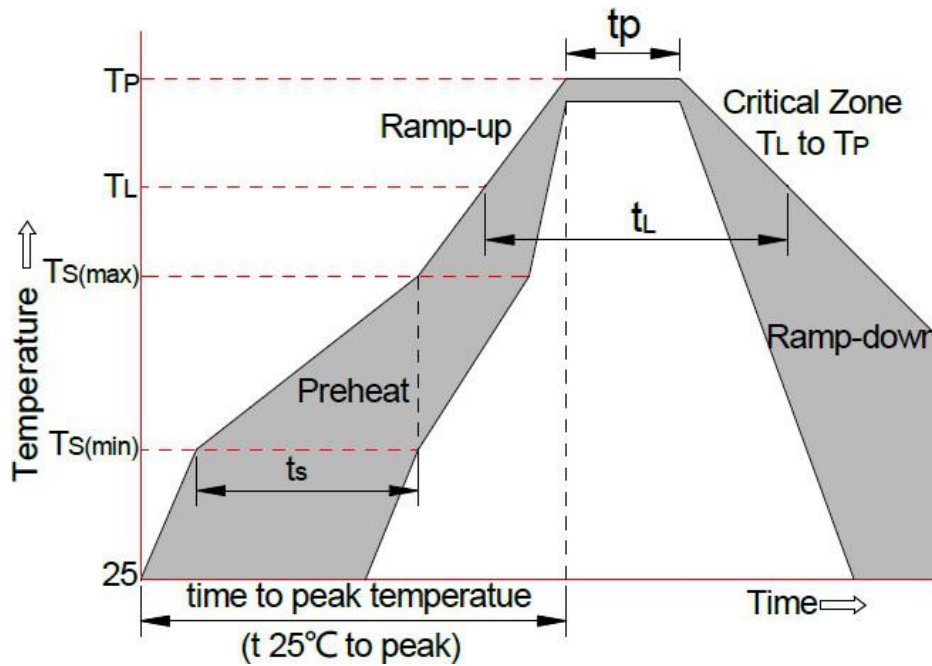
Pulse Waveform



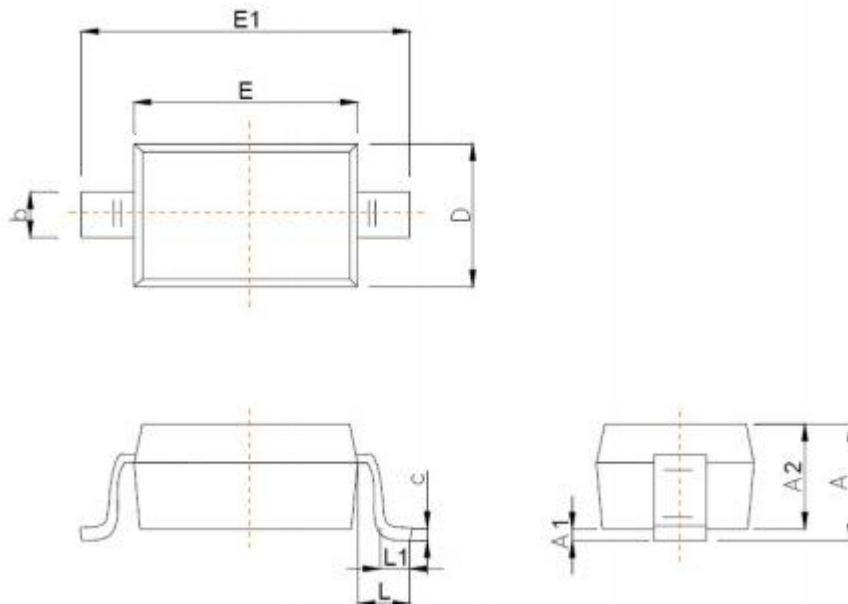
Power Derating Curve



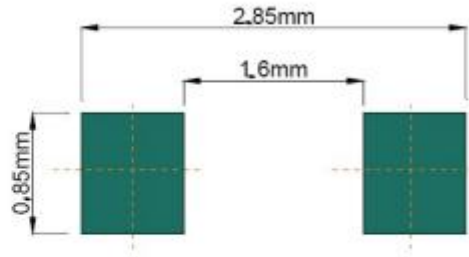
SOLDERING PARAMETERS



| | | |
|---|-----------------------------------|---------------------------------|
| 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) (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 |
| xTime 25°C to Peak Temp (T_P) | | 8 min. Max |
| Do not exceed | | +260°C |

SOD-323PACKAGE 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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