



### General description

These surge protection diodes are 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.

### Features and benefits

- Unidirectional ESD protection of one line
- Reverse stand-off voltage: 36V Max
- Low leakage current: nA Level
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test 30kV(air)/ 30kV(contact)
  - IEC61000-4-5 (Lightning) 7A (8/20μs)
- RoHS Compliant

### Application information

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers

### Ordering information

| Device | Package | Marking | Packaging        |
|--------|---------|---------|------------------|
| SD36   | SOD323  | 36W     | 3000/Tape & Reel |

### Schematic & Pin configuration

| Simplified outline | Graphic symbol |
|--------------------|----------------|
|                    |                |

**Maximum Ratings** ( $T_{OP} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

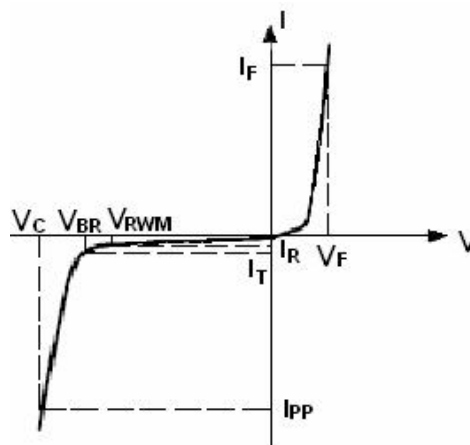
| Parameter                                             | Symbol    | Value       | Unit               |
|-------------------------------------------------------|-----------|-------------|--------------------|
| Peak Pulse Power ( $t_p = 8/20\text{ }\mu\text{s}$ )  | $P_{PPM}$ | 476         | W                  |
| Peak Pulse Current( $t_p = 8/20\text{ }\mu\text{s}$ ) | $I_{PPM}$ | 7           | A                  |
| ESD voltage IEC 61000-4-2 (air discharge)             | $V_{ESD}$ | 30          | kV                 |
| ESD voltage IEC 61000-4-2 (contact discharge)         | $V_{ESD}$ | 30          | kV                 |
| Maximum lead temperature for soldering during 10s     | $T_L$     | 260         | $^{\circ}\text{C}$ |
| Storage Temperature Range                             | $T_{stg}$ | -55 to +150 | $^{\circ}\text{C}$ |
| Operating Temperature Range                           | $T_{OP}$  | -40 to +125 | $^{\circ}\text{C}$ |

**Electrical Characteristics** ( $T_{OP} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

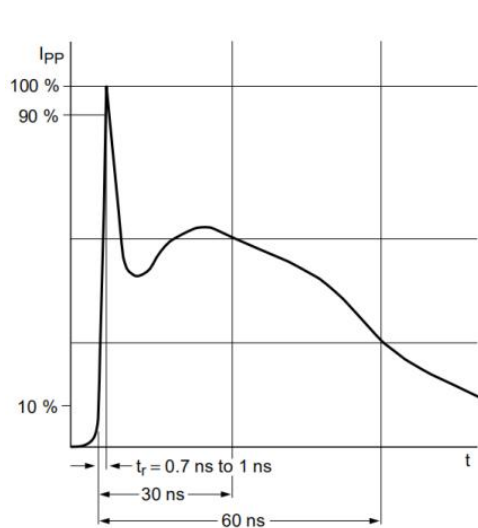
| Parameter                  | Symbol    | Min  | Typ  | Max  | Unit | Condition                               |
|----------------------------|-----------|------|------|------|------|-----------------------------------------|
| Reverse Working Voltage    | $V_{RWM}$ | --   | --   | 36.0 | V    |                                         |
| Breakdown Voltage          | $V_{BR}$  | 39.0 | 43.0 | 45.0 | V    | $I_T=1\text{mA}$                        |
| Leakage Current $I_{Leak}$ | $I_R$     | --   | --   | 100  | nA   | $V_{RWM}=36\text{V}$                    |
| Clamping Voltage           | $V_C$     | --   | 65   | 68.0 | V    | $I_{PP}=7\text{A}, t_p=8/20\mu\text{s}$ |
| Junction Capacitance       | $C_J$     | --   | 30   | 40   | pF   | $V_R=0\text{V}, f=1\text{MHz}$          |

**Portion Electronics Parameter**

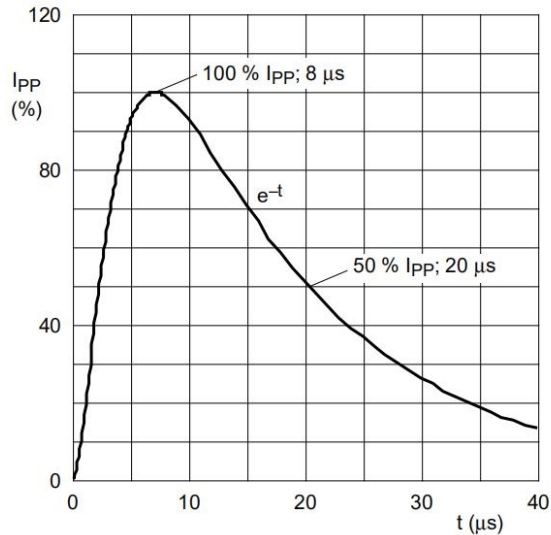
| Symbol    | Parameter                           |
|-----------|-------------------------------------|
| $I_{PP}$  | Maximum Reverse Peak Pulse Current  |
| $V_C$     | Clamping Voltage @ $I_{PP}$         |
| $V_{RWM}$ | Working Peak Reverse Voltage        |
| $I_R$     | Reverse Leakage Current @ $V_{RWM}$ |
| $I_T$     | Test Current                        |
| $V_{BR}$  | Breakdown Voltage @ $I_T$           |
| $I_F$     | Forward Current                     |
| $V_F$     | Forward Voltage @ $I_F$             |



Typical Characteristics



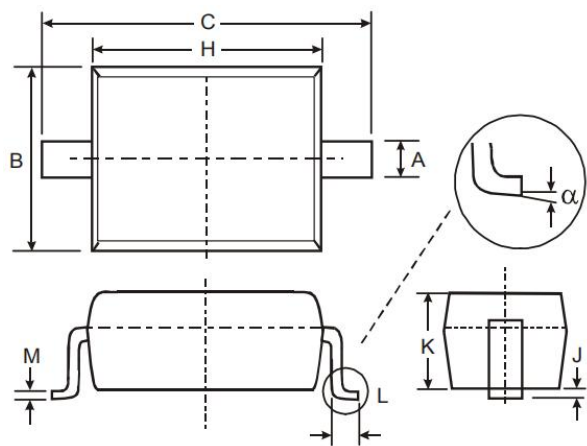
IEC61000-4-2 Waveform



IEC 61000-4-5 Waveform( 8/20μs pulse)

Package Outline Dimensions

SOD323



| SYMBOL | MILLIMETERS |      |
|--------|-------------|------|
|        | MIN         | MAX  |
| A      | 0.25        | 0.35 |
| B      | 1.20        | 1.40 |
| C      | 2.40        | 2.70 |
| H      | 1.60        | 1.80 |
| J      | 0.01        | 0.15 |
| K      | 0.70        | 0.90 |
| L      | 0.20        | 0.40 |
| M      | 0.08        | 0.15 |
| α      | 0°          | 8°   |