

## FEATURES

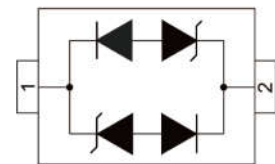
- ✧ 350 watts peak pulse power per line ( $t_P=8/20\mu s$ )
- ✧ Protects one bi-directional I/O line
- ✧ Low clamping voltage
- ✧ Working voltages: 12V
- ✧ Low leakage current
- ✧ RoHS compliant



SOD-323

## MAIN APPLICATIONS

- ✧ Cell phone handsets and accessories
- ✧ Microprocessor based equipment
- ✧ Personal digital assistants (PDA's)
- ✧ Notebooks, desktops, and servers
- ✧ Portable instrumentation
- ✧ Peripherals
- ✧ USB interface



PIN Configuration

## MECHANICAL CHARACTERISTICS

- ✧ SOD-323 package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Weight 5 milligrams (approximate)
- ✧ Quantity per reel: 3,000pcs
- ✧ Lead finish: lead free
- ✧ Marking code: DC

## ABSOLUTE MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ , RH=45%-75%, unless otherwise noted)

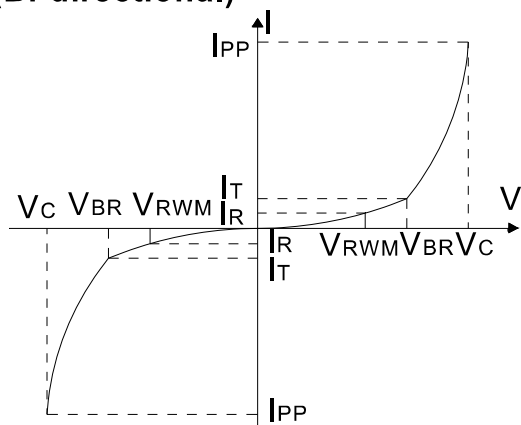
| Rating                                             | Symbol         | Value    | Unit               |
|----------------------------------------------------|----------------|----------|--------------------|
| Peak pulse power ( $t_p=8/20\mu\text{s}$ waveform) | $P_{PP}$       | 350      | W                  |
| ESD voltage (Contact discharge)                    | $V_{ESD}$      | $\pm 30$ | kV                 |
| ESD voltage (Air discharge)                        |                | $\pm 30$ |                    |
| Lead soldering temperature                         | $T_L$          | 260      | $^{\circ}\text{C}$ |
| Storage & operating temperature range              | $T_{STG}, T_J$ | -55~+150 | $^{\circ}\text{C}$ |

## ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ )

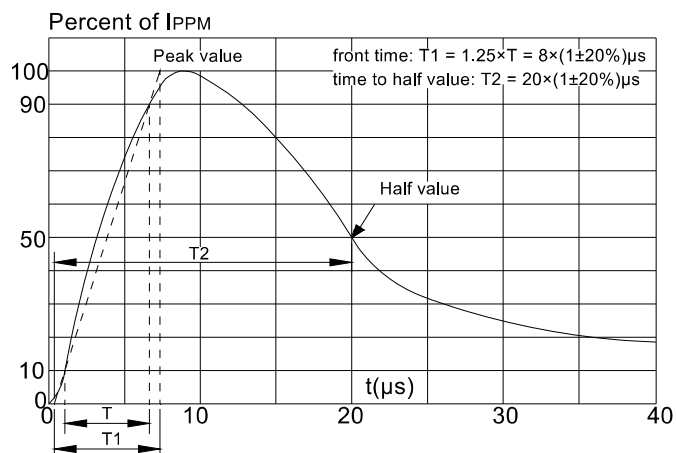
| Parameter                                    | Symbol    | Condition           | Min. | Typ. | Max. | Unit          |
|----------------------------------------------|-----------|---------------------|------|------|------|---------------|
| Reverse stand-off voltage                    | $V_{RWM}$ |                     |      |      | 12   | V             |
| Reverse breakdown voltage                    | $V_{BR}$  | $I_{BR}=1\text{mA}$ | 13.3 |      |      | V             |
| Reverse leakage current                      | $I_R$     | $V_R=12\text{V}$    |      |      | 1    | $\mu\text{A}$ |
| Clamping voltage ( $t_p=8/20\mu\text{s}$ )   | $V_C$     | $I_{PP}=1\text{A}$  |      |      | 19   | V             |
| Clamping voltage ( $t_p=8/20\mu\text{s}$ )   | $V_C$     | $I_{PP}=6\text{A}$  |      |      | 28.6 | V             |
| Peak Pulse Current ( $t_p=8/20\mu\text{s}$ ) | $I_{PP}$  |                     |      |      | 7    | A             |
| Off state junction capacitance               | $C_J$     | 0Vdc, f=1MHz        |      | 0.8  |      | pF            |

## RATINGS AND V-I CHARACTERISTICS CURVES ( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)

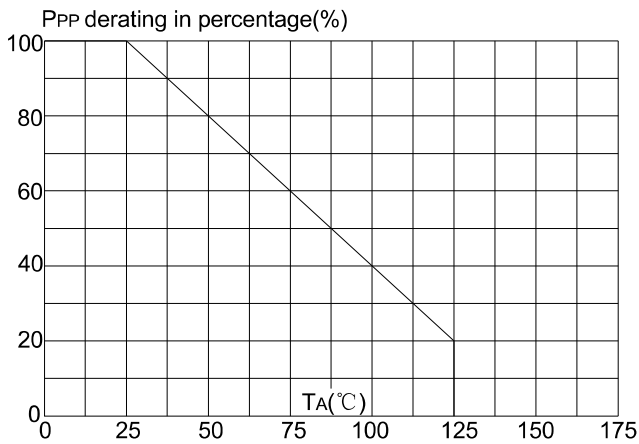
**FIG.1: V- I curve characteristics (Bi-directional)**



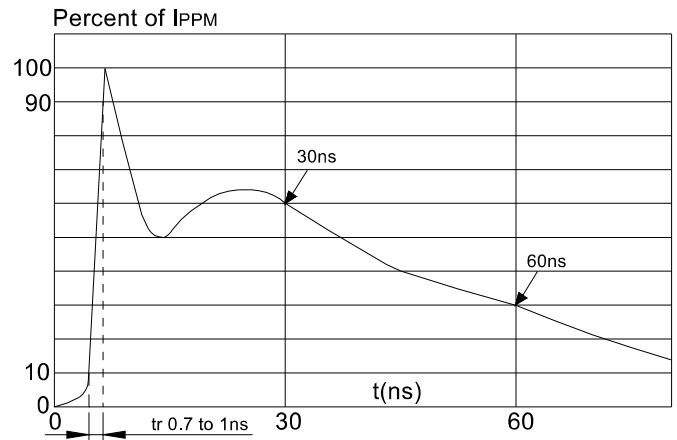
**FIG.2: Pulse waveform (8/20 $\mu\text{s}$ )**



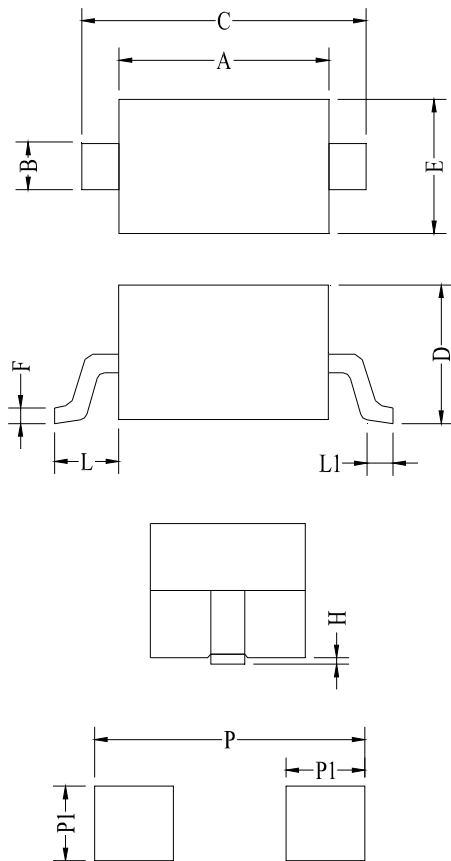
**FIG.3: Pulse derating curve**



**FIG.4: ESD clamping (8KV contact)**



## PACKAGE MECHANICAL DATA



**Land Pattern**

| Symbol | Millimeter |      | Inches   |       |
|--------|------------|------|----------|-------|
|        | Min        | Max  | Min      | Max   |
| A      | 1.60       | 1.80 | 0.063    | 0.071 |
| B      | 0.25       | 0.35 | 0.010    | 0.014 |
| C      | 2.50       | 2.70 | 0.098    | 0.106 |
| D      | 0.00       | 1.00 | 0.000    | 0.039 |
| E      | 1.20       | 1.40 | 0.047    | 0.055 |
| F      | 0.08       | 0.15 | 0.003    | 0.006 |
| L      | 0.475REF   |      | 0.019REF |       |
| L1     | 0.25       | 0.40 | 0.010    | 0.016 |
| H      | 0.00       | 0.10 | 0.000    | 0.004 |
| P      | 3.00       |      | 0.118    |       |
| P1     | 0.80       |      | 0.031    |       |