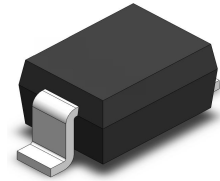


FEATURES:

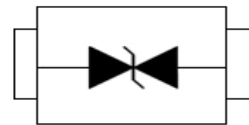
- ✧ Protects one bi-directional I/O line
- ✧ Low clamping voltage
- ✧ Low operating voltage: 5V
- ✧ ROHS compliant



SOD-323

MAIN APPLICATIONS

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



PIN Configuration

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) ± 25 kV (air), ± 25 kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)

MECHANICAL CHARACTERISTICS

- ✧ Package SOD-323
- ✧ Molding Compound Flammability Rating : UL 94V-O
- ✧ Quantity Per Reel : 3,000pcs
- ✧ Lead Finish : Lead Free
- ✧ Marking code: 05B

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

| Parameter | Symbol | Value | Unit |
|---|-----------|---------------|------------------|
| Storage temperature range | T_{stg} | -55 to +150 | $^\circ\text{C}$ |
| Operating junction temperature range | T_j | -55 to +125 | $^\circ\text{C}$ |
| Lead Soldering Temperature | T_L | 260 (10 sec.) | $^\circ\text{C}$ |
| Peak pulse power dissipation on 8/20 μs waveform | P_{PP} | 350 | W |
| ESD per IEC 61000-4-2 (Air) | V_{ESD} | +/- 25 | kV |
| ESD per IEC 61000-4-2 (Contact) | | +/- 25 | |

ELECTRICAL CHARACTERISTICS (T_A=25°C)

| Parameter | Symbol | Conditions | Min | Typ | Max | Units |
|---------------------------|-----------------|--|-----|-----|-----|-------|
| Reverse Working Voltage | V _R | | | | 5 | V |
| Reverse Breakdown Voltage | V _{BR} | I _T = 1mA | 6.2 | | | V |
| Reverse Leakage Current | I _R | V _R = 5V | | | 10 | μA |
| Peak Pulse Current | I _{pp} | t _p = 8/20μs | | | 17 | A |
| Clamping Voltage | V _C | I _{PP} = 1A, t _p = 8/20μs | | 9.8 | | V |
| | | I _{PP} = 17A, t _p = 8/20μs | | | 21 | V |
| Junction Capacitance | C _J | V _R = 0V, f = 1MHz | | 200 | | pF |

RATINGS AND V-I CHARACTERISTICS CURVES (T_A=25°C, unless otherwise noted)

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

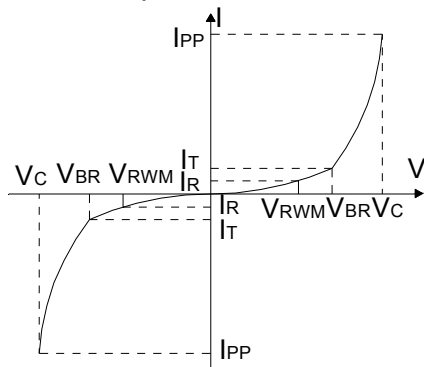


FIG.2: Pulse waveform (8/20μs)

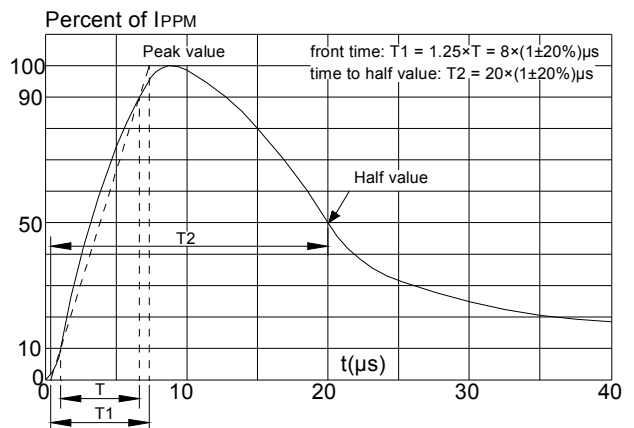


FIG.3: Pulse derating curve

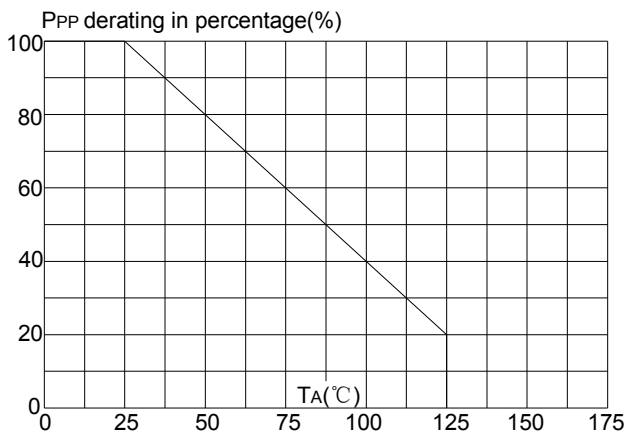
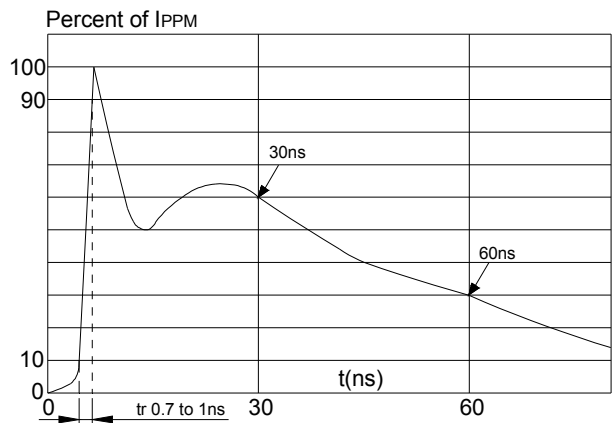
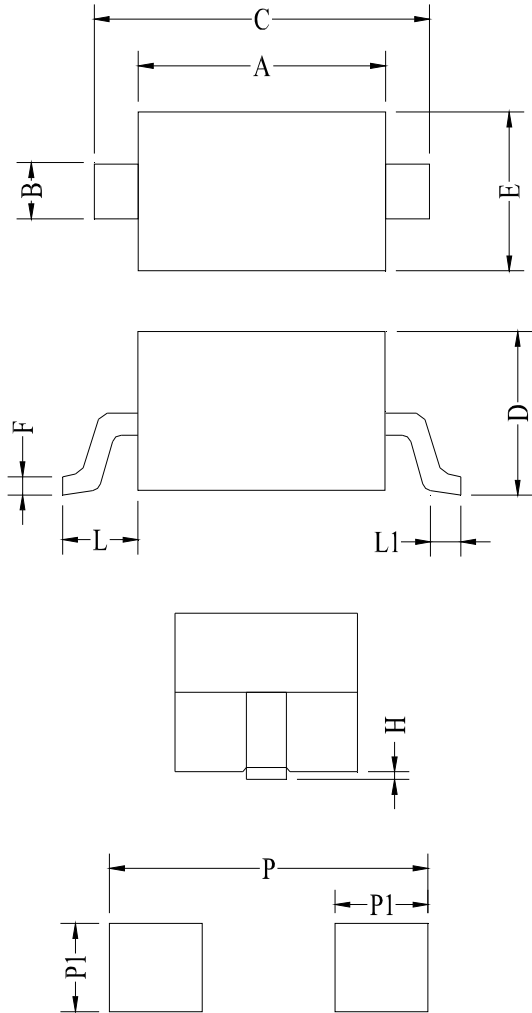


FIG.4: ESD clamping



PACKAGE MECHANICAL DATA



| 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 | |

Land Pattern

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

| Profile Feature | Soldering Condition |
|---|-----------------------------|
| Average ramp-up rate(T _L to T _P) | <3°C/sec |
| Preheat -Temperature Min(T _{smin}) -Temperature Max(T _{smax}) -Time(min to max)(t _s) | 150°C 200°C 60~120sec |
| T _{smax} to T _L -Ramp-upRate | <3°C/sec |
| Time maintained above: -Temperature(T _L) -Time(t _L) | 217°C 60~260sec |
| Peak Temperature(T _P) | 255°C-0/+5°C |
| Time within 5°C of actual Peak Temperature(t _p) | 10~30sec |
| Ramp-down Rate | <6°C/sec |
| Time 25°C to Peak Temperature | <6minutes |

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