

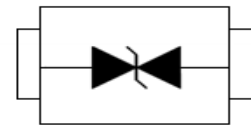


FEATURES

- ◇ 400 Watts peak pulse power per line ($t_P=8/20\mu s$)
- ◇ Protects one bi-directional I/O line
- ◇ Low clamping voltage
- ◇ Working voltage:36V
- ◇ Low leakage current
- ◇ RoHS compliant
- ◇ AEC-Q101 qualified



SOD-323



Pin Configuration

MAIN APPLICATIONS

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

PROTECTION SOLUTION TO MEET

- ◇ IEC61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- ◇ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◇ IEC61000-4-5 (Lightning) 6A(8/20 μs)

MECHANICAL CHARACTERISTICS

- ◇ SOD-323 package
- ◇ Molding compound flammability rating : UL 94V-0
- ◇ Quantity per reel : 3,000pcs
- ◇ Lead finish : lead free
- ◇ Marking code: 2N

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

| Parameter | Symbol | Value | Unit |
|--|-----------|------------------|--------------------|
| Peak pulse power dissipation at 8/20 μs waveform | P_{PP} | 400 | W |
| ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact) | V_{ESD} | +/- 30 +/- 30 | kV |
| Lead soldering temperature | T_L | 260 (10 sec.) | $^{\circ}\text{C}$ |
| Operating junction temperature range | T_J | -55 to +150 | $^{\circ}\text{C}$ |
| Storage temperature range | T_{STG} | -55 to +150 | $^{\circ}\text{C}$ |

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

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|---------------------------|-----------|---|-----|-----|------|---------------|
| Reverse working voltage | V_{RWM} | | | | 36 | V |
| Reverse breakdown voltage | V_{BR} | $I_T=1\text{mA}$ | 40 | 42 | 47.5 | V |
| Reverse leakage current | I_R | $V_{RWM}=36\text{V}$ | | | 0.2 | μA |
| Clamping voltage | V_C | $I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$ | | 45 | 60 | V |
| | | $I_{PP}=6\text{A}, t_p=8/20\mu\text{s}$ | | 60 | 70 | V |
| Junction capacitance | C_J | $V_{RWM}=0\text{V}, f=1\text{MHz}$ | | 14 | 25 | pF |

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

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

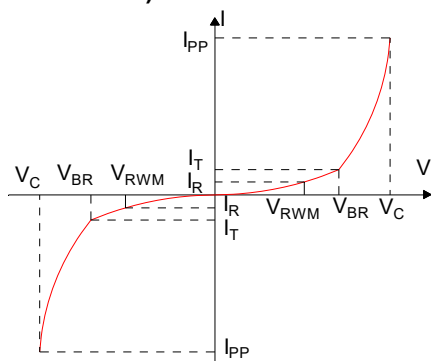


FIG.2: Pulse waveform (8/20 μs)

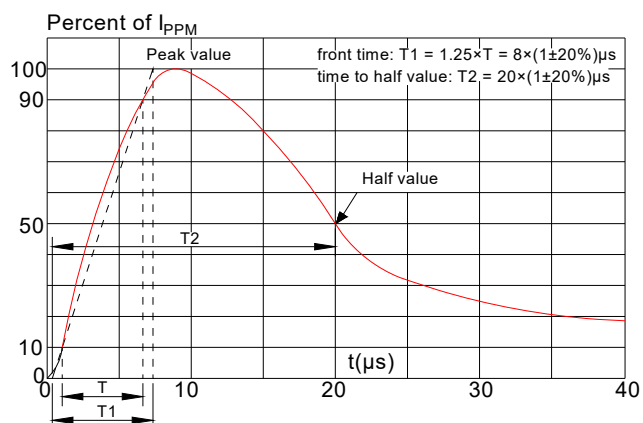


FIG.3: Pulse derating curve

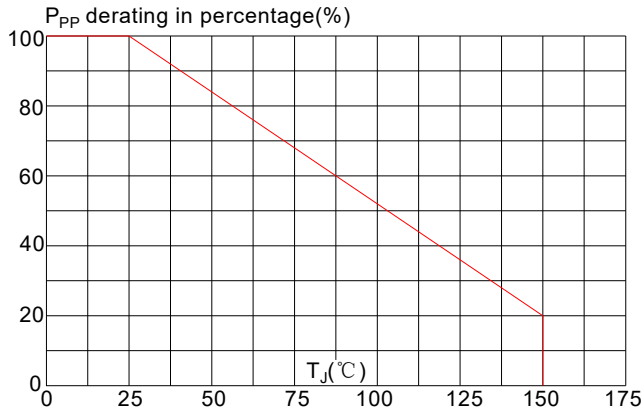
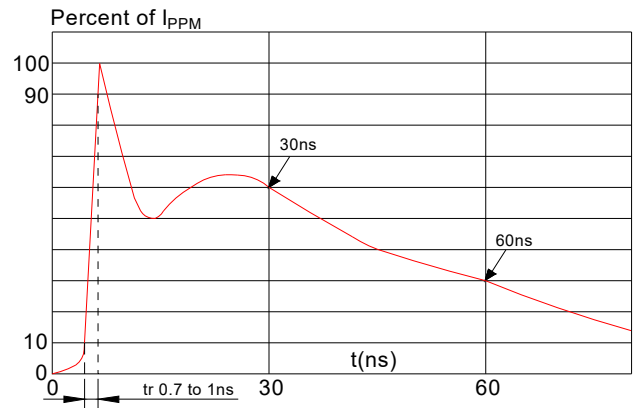
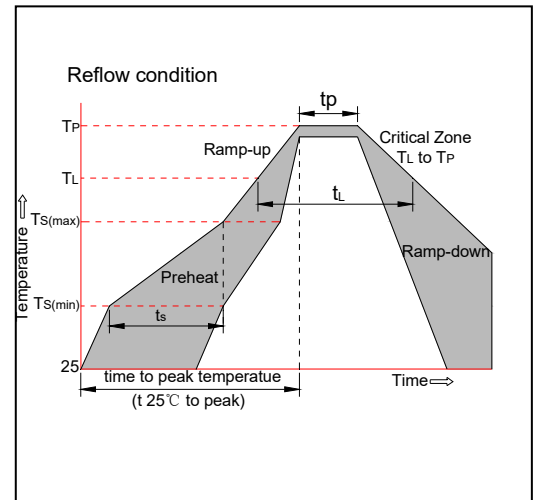


FIG.4: ESD clamping (30kV contact)

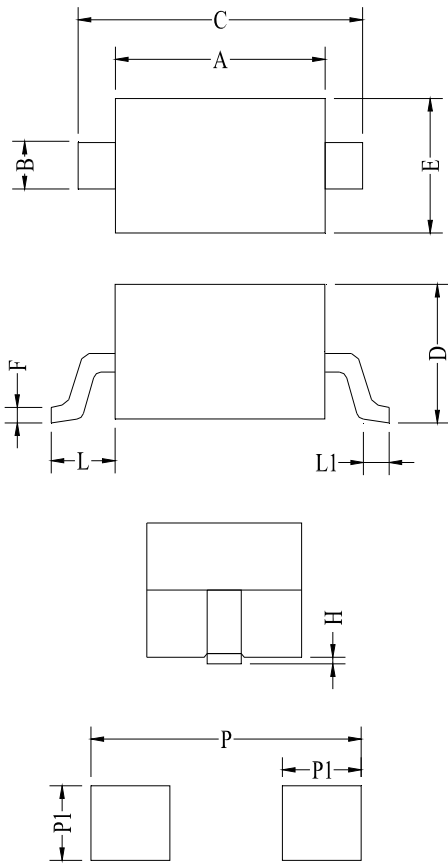


SOLDERING PARAMETERS

| | | |
|--|-----------------------------------|---|
| Reflow Condition | | Pb-Free assembly (see figure at right) |
| Pre Heat | -Temperature Min ($T_{s(min)}$) | +150°C |
| | -Temperature Max($T_{s(max)}$) | +200°C |
| | -Time (Min to Max) (t_s) | 60-180 secs. |
| Average ramp up rate (Liquidus 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)(Liquidus) | +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) | | 20-40secs. |
| Ramp-down Rate | | 6°C/sec. Max |
| Time 25°C to Peak Temp (T_p) | | 8 min. Max |
| Do not exceed | | +260°C |



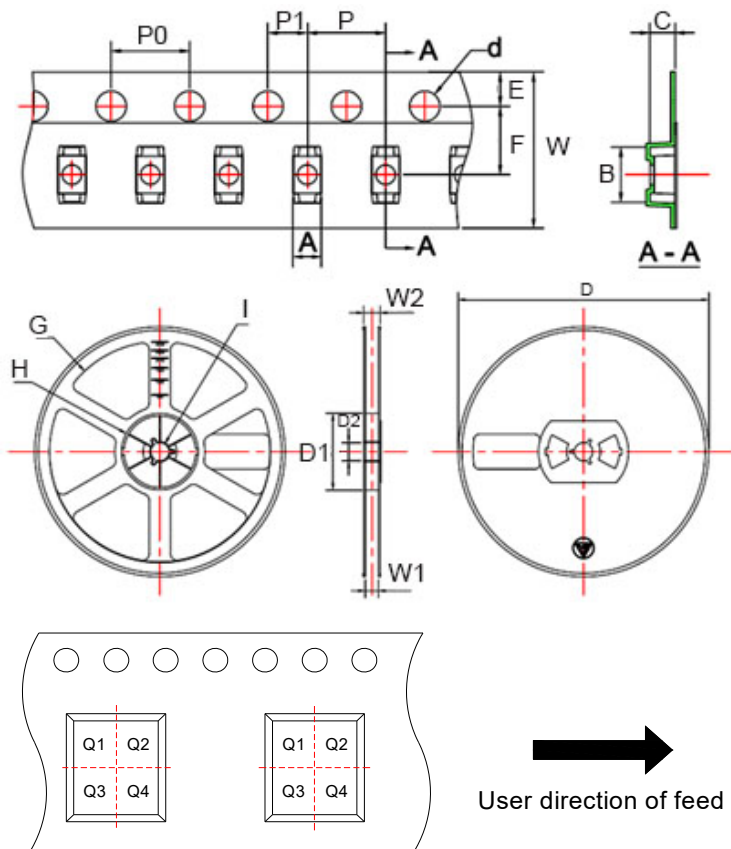
PACKAGE MECHANICAL DATA



Land Pattern

| Symbol | Millimeters | | | Inches | | |
|--------|-------------|------|------|----------|-------|-------|
| | Min | Typ | Max | Min | Typ | Max |
| A | 1.60 | 1.70 | 1.80 | 0.063 | 0.067 | 0.071 |
| B | 0.25 | 0.32 | 0.40 | 0.010 | 0.013 | 0.016 |
| C | 2.30 | 2.60 | 2.80 | 0.091 | 0.102 | 0.110 |
| D | 0.80 | 0.95 | 1.10 | 0.031 | 0.037 | 0.043 |
| E | 1.20 | 1.30 | 1.40 | 0.047 | 0.051 | 0.055 |
| F | 0.08 | 0.13 | 0.18 | 0.003 | 0.005 | 0.007 |
| L | 0.475REF | | | 0.019REF | | |
| L1 | 0.25 | 0.33 | 0.40 | 0.010 | 0.013 | 0.016 |
| H | 0.00 | 0.06 | 0.14 | 0.000 | 0.002 | 0.006 |
| P | 3.00 | | | 0.118 | | |
| P1 | 0.80 | | | 0.031 | | |

TAPE AND REEL INFORMATION-SOD-323



Pin 1 quadrant:Q1&Q2

Packaging description:


SOD-323 parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. The reels are blue in color and made of recyclable plastic.

| Symbol | Millimeters | Inches |
|--------|-------------|--------|
| | Typ | Typ |
| A | 1.46 | 0.057 |
| B | 2.90 | 0.114 |
| C | 1.25 | 0.049 |
| d | ø1.50 | ø0.059 |
| E | 1.75 | 0.069 |
| F | 3.50 | 0.138 |
| P0 | 4.00 | 0.157 |
| P | 4.00 | 0.157 |
| P1 | 2.00 | 0.079 |
| W | 8.00 | 0.315 |
| D | ø178.0 | ø7.008 |
| D1 | 54.40 | 2.142 |
| D2 | 13.00 | 0.512 |
| G | R78.0 | R3.071 |
| H | R25.60 | R1.008 |
| I | R6.50 | R0.256 |
| W1 | 9.50 | 0.374 |
| W2 | 12.30 | 0.484 |

ORDERING INFORMATION

| PART No. | PACKAGE TYPE | QUANTITY(PCS) REEL | DESCRIPTION |
|------------|--------------|-----------------------|------------------|
| JEB36D3-AU | SOD-323 | 3,000 | 7 inch reel pack |

MARKING CODE

| Part Number | Marking Code |
|-------------|--|
| JEB36D3-AU |  |


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