

FEATURES

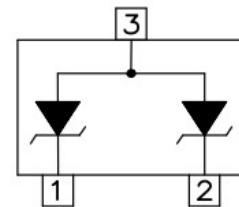
- ✧ 480 watts peak pulse power per line ($t_P=8/20\mu s$)
- ✧ Protects two I/O lines with uni-directional
- ✧ Low clamping voltage
- ✧ Working voltages:15V
- ✧ Low leakage current
- ✧ RoHS compliant



SOT-23

MAIN APPLICATIONS

- ✧ RS-232, RS-422 & RS-485
- ✧ Servers, notebook, and desktop
- ✧ Cellular handsets and accessories
- ✧ Control & monitoring systems
- ✧ Portable electronics
- ✧ Wireless bus protection
- ✧ Set-top box



PIN Configuration

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)

MECHANICAL CHARACTERISTICS

- ✧ SOT-23 package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Weight 8 milligrams (approximate)
- ✧ Quantity per reel: 3,000 pcs
- ✧ Reel size: 7 inch
- ✧ Lead finish: lead free
- ✧ Marking code: BM2

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

| Parameter | Symbol | Value | Unit |
|--|-----------|------------------|--------------------|
| Peak pulse power dissipation on 8/20 μs waveform | P_{PP} | 480 | 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 +125 | $^{\circ}\text{C}$ |
| 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} | | | | 15 | V |
| Reverse breakdown voltage | V_{BR} | $I_T=1\text{mA}$ | 17 | | | V |
| Reverse leakage current | I_R | $V_{RWM}=15\text{V}$ | | | 0.15 | μA |
| Clamping voltage | V_C | $I_{PP}^{①}=1\text{A}$, $t_P=8/20\mu\text{s}$ | | 17 | 22 | V |
| | | $I_{PP}^{①}=15\text{A}$, $t_P=8/20\mu\text{s}$ | | 33 | 38 | V |
| Junction capacitance | $C_J^{②}$ | $V_{RWM}=0\text{V}$, $f=1\text{MHz}$ Any I/O pin to GND | | 60 | | pF |
| Junction capacitance | $C_J^{③}$ | $V_{RWM}=0\text{V}$, $f=1\text{MHz}$ Between I/O pins | | 30 | | pF |

① Surge waveform: 8/20 μs

② C_J measured @ $V_{RWM}=0\text{V}$, 1MHz (pin1 to pin3, pin2 to pin3)

③ C_J measured @ $V_{RWM}=0\text{V}$, 1MHz (pin1 to pin2, pin2 to pin1)

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

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

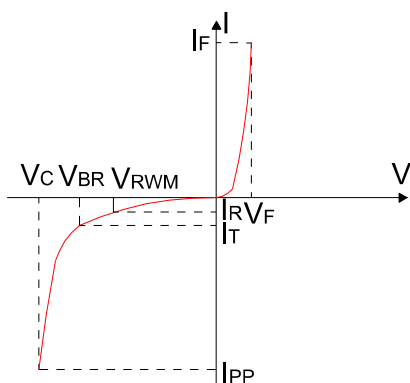


FIG.2: Pulse waveform (8/20μs)

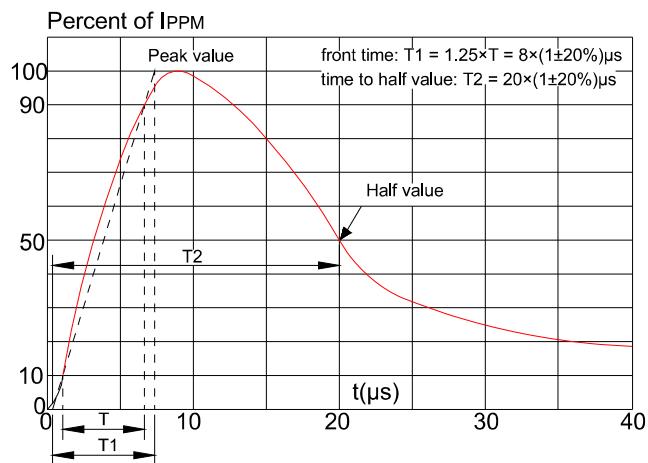


FIG.3: Pulse derating curve

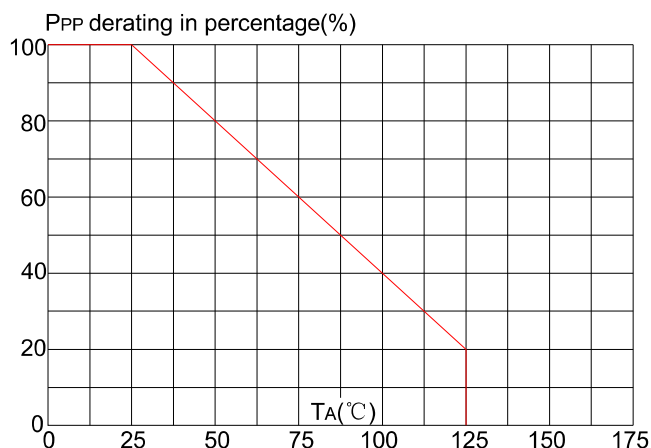
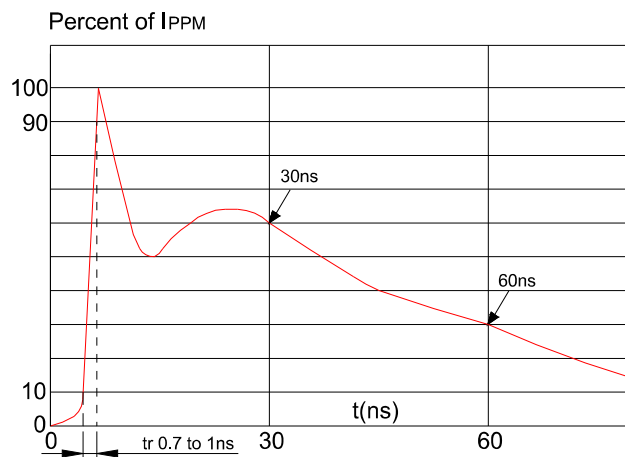
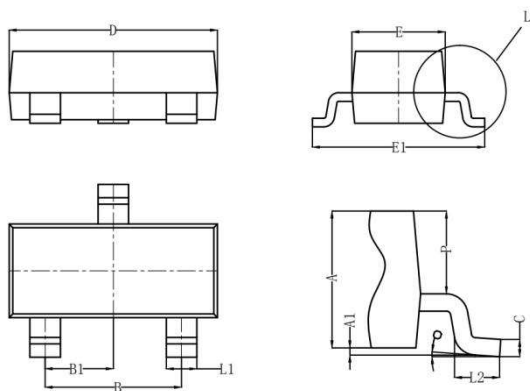


FIG.4: ESD clamping (30kV contact)



PACKAGE MECHANICAL DATA



SOT-23

| Symbol | Dimensions (mm) | | |
|--------|-----------------|-------|--------|
| | Min | Typ | Max |
| A | 0.900 | 1.000 | 1.1100 |
| A1 | 0.000 | 0.050 | 0.100 |
| L1 | 0.350 | 0.400 | 0.500 |
| C | 0.100 | 0.110 | 0.120 |
| D | 2.800 | 2.900 | 3.000 |
| E | 1.250 | 1.300 | 1.350 |
| E1 | 2.250 | 2.400 | 2.550 |
| B | 1.800 | 1.900 | 2.000 |
| B1 | 0.950 Typ | | |
| L2 | 0.200 | 0.350 | 0.450 |
| P | 0.550 | 0.575 | 0.600 |