



DWUB3310S9 ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 100Watts peak pulse power (tp = 8/20μs)
- Working voltage: 3.3V
- Junction Capacitance: 15pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 ±30kV contact ±30kV air
- IEC 61000-4-5 (Lightning) 11.2A (8/20μs)

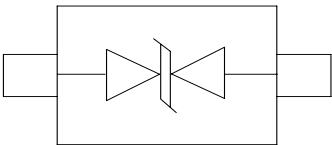
Application

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

Mechanical Data

- Package: SOD-923
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

| Part Number | Package | Marking | QTY per Reel | Reel Size |
|-------------|---------|---------|--------------|-----------|
| DWUB3310S9  | SOD-923 |         | 8000 pcs     | 7 inches  |



## Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

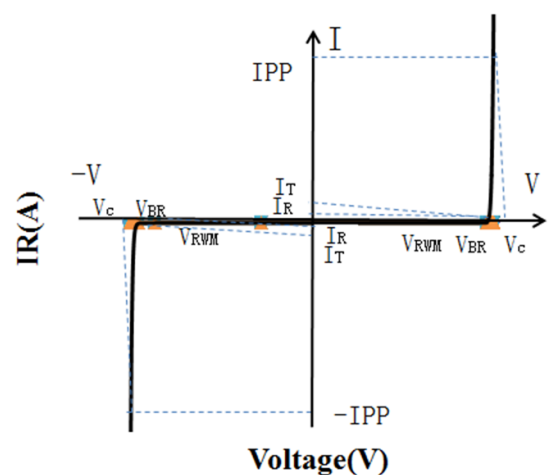
| Parameter                                                      | Symbol    | Value                | Unit               |
|----------------------------------------------------------------|-----------|----------------------|--------------------|
| Peak Pulse Power (8/20 $\mu\text{s}$ )                         | $P_{PK}$  | 100                  | W                  |
| Peak Pulse Current (8/20 $\mu\text{s}$ )                       | $I_{PP}$  | 11.2                 | A                  |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | $V_{ESD}$ | $\pm 30$<br>$\pm 30$ | kV                 |
| Operating Temperature Range                                    | $T_J$     | -55 to +125          | $^{\circ}\text{C}$ |
| Storage Temperature Range                                      | $T_{stg}$ | -55 to +150          | $^{\circ}\text{C}$ |

## Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter               | Symbol    | Test Condition                                       | Min | Typ  | Max  | Unit          |
|-------------------------|-----------|------------------------------------------------------|-----|------|------|---------------|
| Reverse Working Voltage | $V_{RWM}$ |                                                      |     |      | 3.3  | V             |
| Breakdown Voltage       | $V_{BR}$  | $I_T = 1\text{mA}$                                   | 3.5 | 4.0  |      | V             |
| Reverse Leakage Current | $I_R$     | $V_{RWM} = 3.3\text{V}$                              |     |      | 0.5  | $\mu\text{A}$ |
| Clamping Voltage        | $V_C$     | $I_{PP} = 1\text{A}$ (8 x 20 $\mu\text{s}$ pulse)    |     |      | 6.5  | V             |
| Clamping Voltage        | $V_C$     | $I_{PP} = 11.2\text{A}$ (8 x 20 $\mu\text{s}$ pulse) |     | 7.0  | 10.0 | V             |
| Junction Capacitance    | $C_J$     | $V_R = 0\text{V}$ , $f = 1\text{MHz}$                |     | 15.0 | 20.0 | pF            |

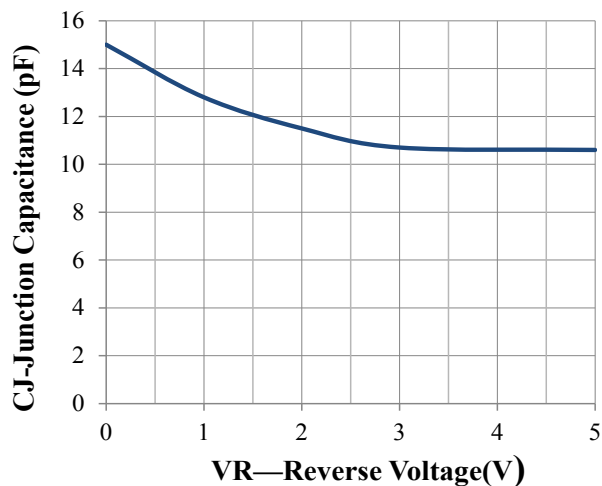
## Electrical Parameters

| Symbol   | Parameter                          |
|----------|------------------------------------|
| $I_T$    | Test Current                       |
| $I_{PP}$ | Maximum Reverse Peak Pulse Current |
| $V_C$    | Clamping Voltage @ $I_C$           |

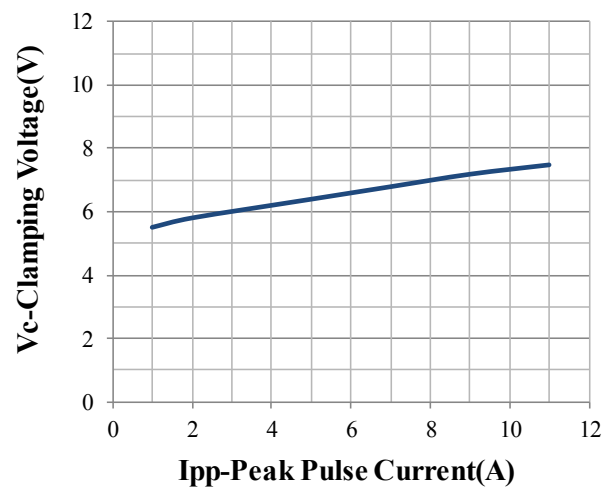




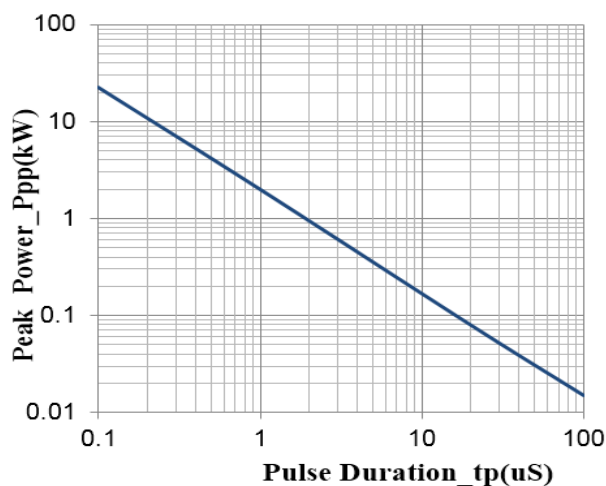
## Typical Characteristics



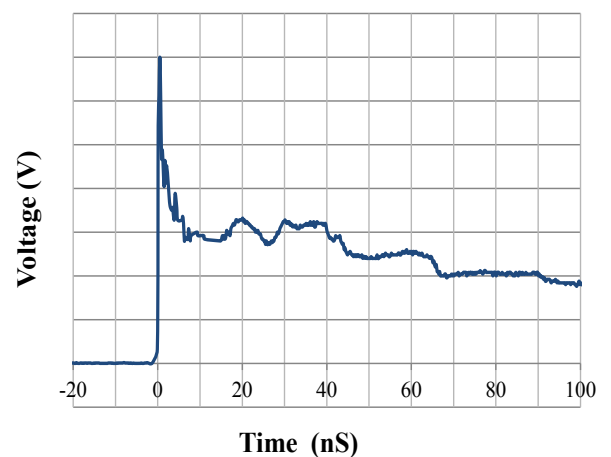
Junction Capacitance vs. Reverse Voltage



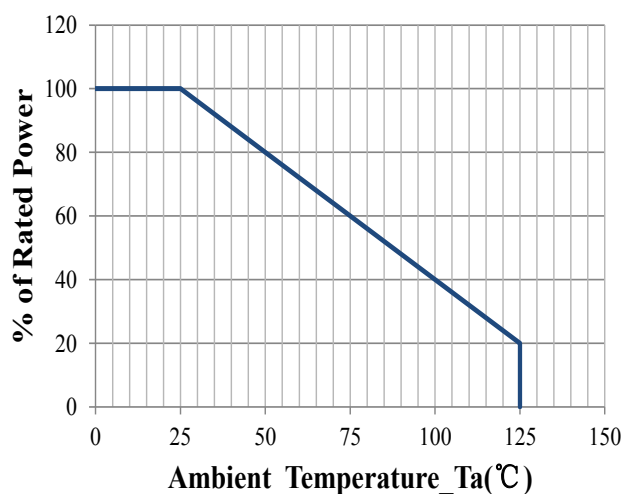
Clamping Voltage vs. Peak Pulse Current



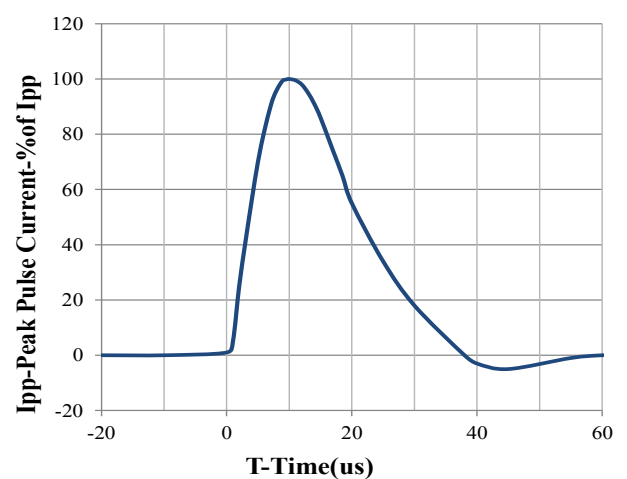
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



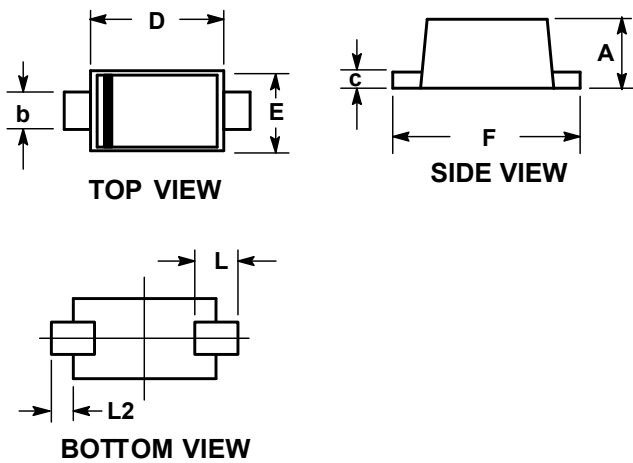
Power Derating Curve



8 X 20us Pulse Waveform



## SOD-923 Outline Drawing



| SYM | DIMENSIONS  |      |      |           |       |       |
|-----|-------------|------|------|-----------|-------|-------|
|     | MILLIMETERS |      |      | INCHES    |       |       |
|     | MIN         | NOM  | MAX  | MIN       | NOM   | MAX   |
| A   | 0.39        | 0.42 | 0.45 | 0.016     | 0.017 | 0.018 |
| b   | 0.15        | 0.20 | 0.25 | 0.006     | 0.008 | 0.010 |
| c   | 0.07        | 0.12 | 0.17 | 0.003     | 0.005 | 0.007 |
| D   | 0.75        | 0.80 | 0.85 | 0.030     | 0.032 | 0.034 |
| E   | 0.55        | 0.60 | 0.65 | 0.022     | 0.024 | 0.026 |
| F   | 0.95        | 1.00 | 1.05 | 0.038     | 0.040 | 0.042 |
| L   | 0.19 REF    |      |      | 0.007 REF |       |       |
| L2  | 0.05        | 0.10 | 0.15 | 0.002     | 0.004 | 0.006 |