



## DWSUC2504RH ESD Protection Diode

### Feature

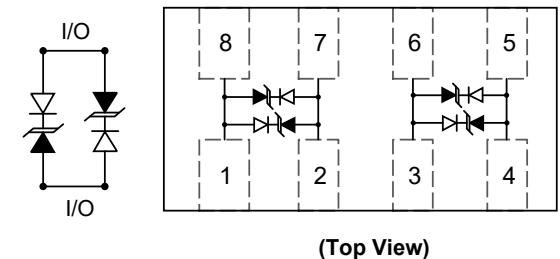
- Bi-directional ESD protection of two lines
- 240Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Working voltage: 3.3V
- Junction Capacitance: 0.83pF(Typ)
- Low leakage current
- Low clamping voltage
- IEC 61000-4-2  $\pm 30kV$  contact  $\pm 30kV$  air
- IEC 61000-4-5 (Lightning) 20A (8/20 $\mu s$ )

### Application

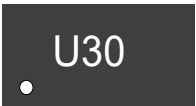
- 10/100/1000 Ethernet
- Integrated magnetics/RJ-45 connectors
- LAN/WAN Equipment
- Security Cameras
- Industrial Controls
- Notebooks, Desktops, and Servers

### Mechanical Data

- Package: DFN2010-8L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant



### Ordering Information

| Part Number | Package    | Marking                                                                             | Packing          | Reel Size |
|-------------|------------|-------------------------------------------------------------------------------------|------------------|-----------|
| DWSUC2504RH | DFN2010-8L |  | 3000 Tape & Reel | 7 inches  |



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

| Parameter                                                      | Symbol    | Value           | Units              |
|----------------------------------------------------------------|-----------|-----------------|--------------------|
| Peak Pulse Power ( $t_p=8/20\mu\text{s}$ )                     | $P_{pp}$  | 240             | Watts              |
| Peak Pulse Current ( $t_p=8/20\mu\text{s}$ )                   | $I_{pp}$  | 20              | A                  |
| ESD per IEC 61000-4-2 (Air)<br>ESD per IEC 61000-4-2 (Contact) | $V_{ESD}$ | 30<br>30        | kV                 |
| Lead Soldering Temperature                                     | $T_L$     | 260 (10seconds) | $^{\circ}\text{C}$ |
| Junction Temperature                                           | $T_J$     | -55 to + 125    | $^{\circ}\text{C}$ |
| Storage Temperature                                            | $T_{stg}$ | -55 to + 125    | $^{\circ}\text{C}$ |

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

| Parameter                 | Symbol    | Conditions                                    | Min. | Typ. | Max. | Units         |
|---------------------------|-----------|-----------------------------------------------|------|------|------|---------------|
| Reverse Stand-Off Voltage | $V_{RWM}$ |                                               |      |      | 3.3  | V             |
| Reverse Leakage Current   | $I_R$     | $V_{RWM}=3.3\text{V}, T_A=25^{\circ}\text{C}$ |      |      | 0.5  | $\mu\text{A}$ |
| Reverse Breakdown Voltage | $V_{BR}$  | $I_T=1\text{mA}$                              | 3.7  |      |      | V             |
| Clamping Voltage          | $V_C$     | $I_{PP}=20\text{A}, t_p=8/20\mu\text{s}$      |      |      | 12   | V             |
| Junction Capacitance      | $C_j$     | $V_R = 0\text{V}, f = 1\text{MHz}$            |      | 0.83 | 1.0  | pF            |

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

$V_{RWM}$  .....Reverse Working Voltage Max.

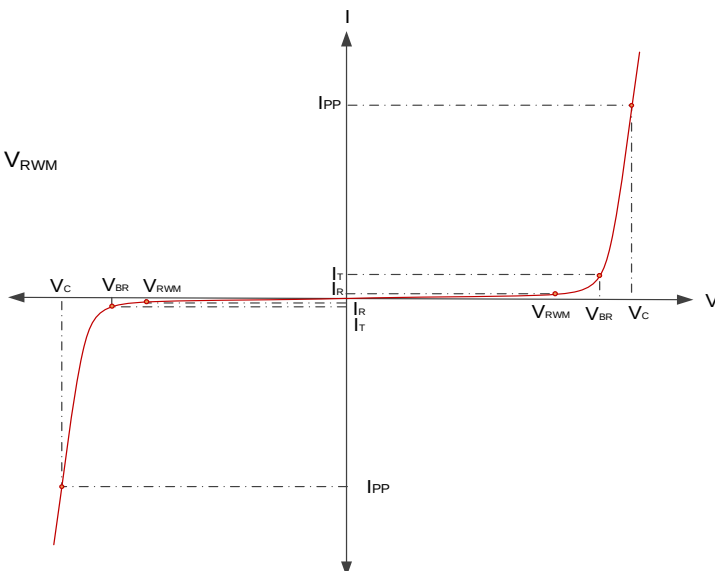
$I_R$  ..... Maximum Reverse Leakage Current @  $V_{RWM}$

$I_T$  ..... Test Current

$V_{BR}$  ..... Reverse Breakdown Voltage

$I_{PP}$  ..... Maximum Reverse Peak Pulse Current

$V_C$  ..... Clamping Voltage @  $I_{PP}$





## Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

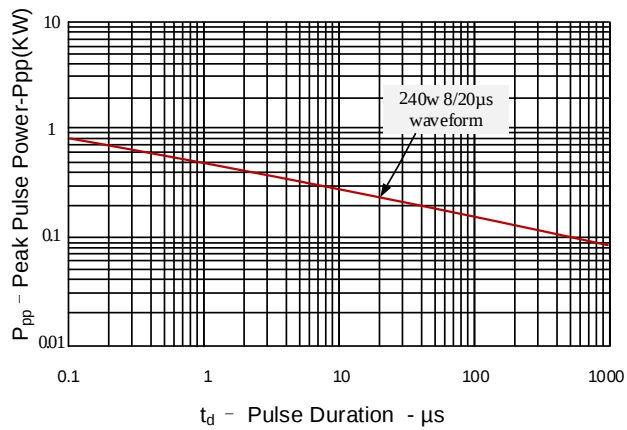


Figure 2: Power Derating Curve

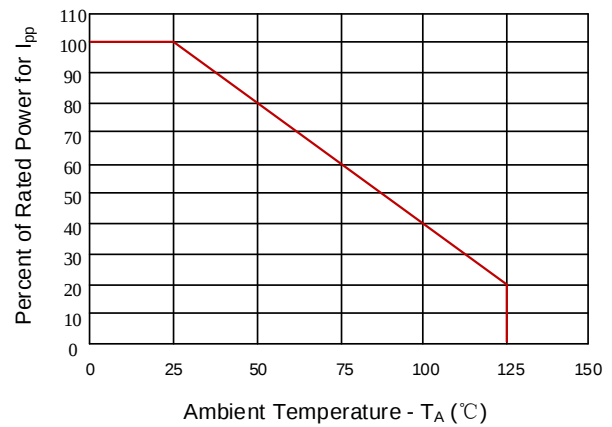


Figure3: 8/20  $\mu s$  Pulse Waveform according to IEC61000-4-5

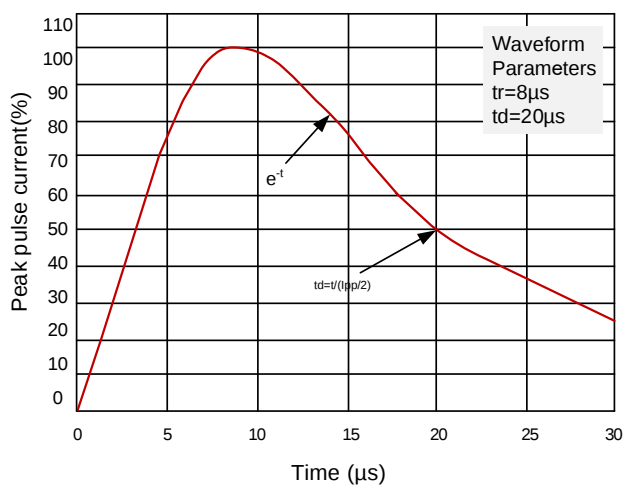
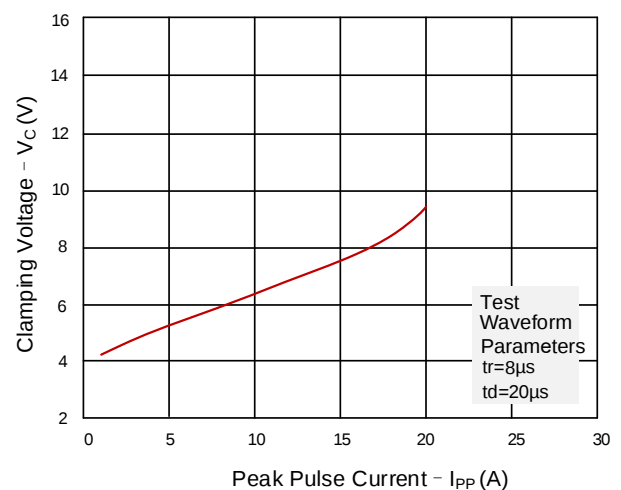
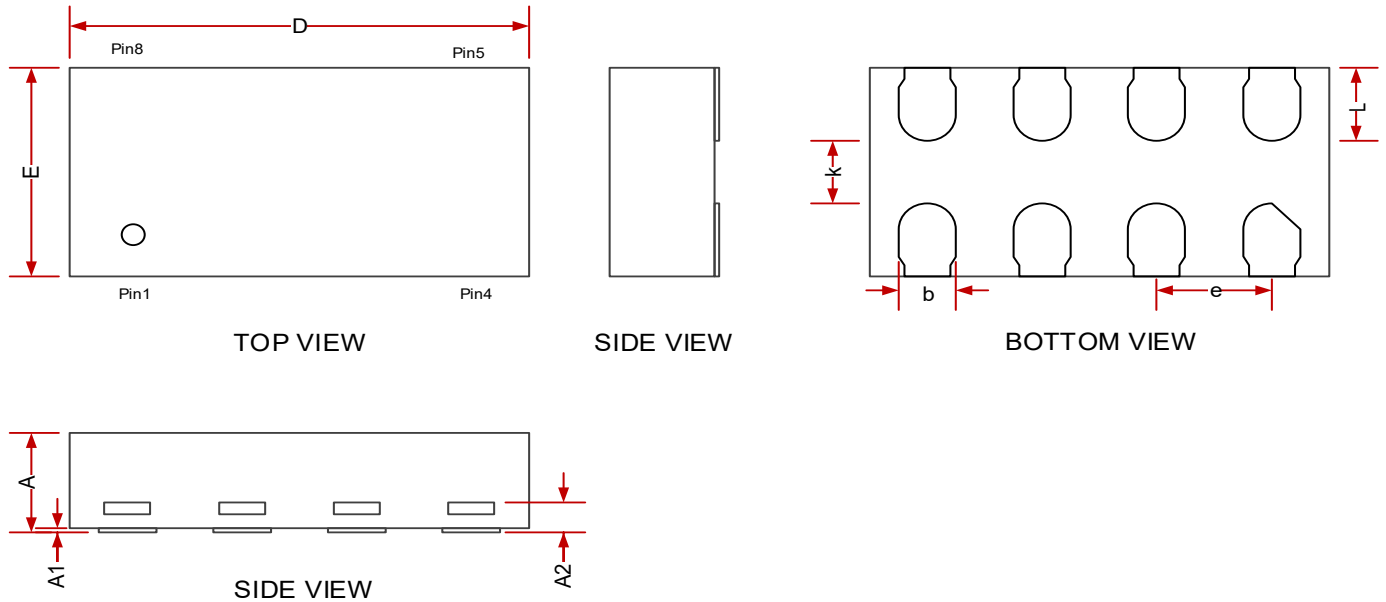


Figure4: Clamping Voltage VS.  $I_{pp}$





## DFN2010-8L Package Outline Drawing



| Common Dimension(mm) |           |       |       |
|----------------------|-----------|-------|-------|
| PKG.                 | DFN2010P8 |       |       |
| Symbol               | Min.      | Nom.  | Max.  |
| A                    | 0.425     | 0.475 | 0.525 |
| A1                   | --        | 0.02  | 0.05  |
| A2                   | 0.127REF  |       |       |
| b                    | 0.20      | 0.25  | 0.30  |
| D                    | 1.90      | 2.00  | 2.10  |
| E                    | 0.90      | 1.00  | 1.10  |
| e                    | 0.50BSC   |       |       |
| k                    | 0.25      | 0.30  | 0.35  |
| L                    | 0.30      | 0.35  | 0.40  |