



## DWNC2X5V1BA ESD Protection Diode

### Feature

- Bi-directional ESD protection of one lines
- 80W Peak pulse Power (8/20us)
- Working voltage: 5V
- Junction Capacitance: 12pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2  $\pm 25\text{kV}$  contact  $\pm 25\text{kV}$  air
- IEC 61000-4-5 (Lightning) 6A (8/20 $\mu\text{s}$ )

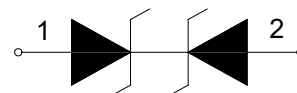
### Application

- Cellular handsets and accessories
- Portable Digital Assistants
- Notebooks & Handhelds
- Digital Cameras
- MP3 Players
- Peripherals

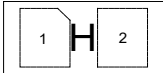
### Mechanical Data

- Package: DFN0603-2L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

### Circuit Diagram



### Ordering Information

| Part Number | Package    | Marking                                                                             | Packing           | Reel Size |
|-------------|------------|-------------------------------------------------------------------------------------|-------------------|-----------|
| DWNC2X5V1BA | DFN0603-2L |  | 10000 Tape & Reel | 7 inches  |



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

| Parameter                                                          | Symbol    | Min. | Max. | Unit               |
|--------------------------------------------------------------------|-----------|------|------|--------------------|
| Peak pulse power ( $t_p=8/20\mu\text{s}$ )@ $25^{\circ}\text{C}$   | $P_{PK}$  | -    | 80   | W                  |
| Peak pulse current ( $t_p=8/20\mu\text{s}$ )@ $25^{\circ}\text{C}$ | $I_{PP}$  |      | 6    | A                  |
| ESD (IEC61000-4-2 air discharge) @ $25^{\circ}\text{C}$            | $V_{ESD}$ | -    | 25   | kV                 |
| ESD (IEC61000-4-2 contact discharge) @ $25^{\circ}\text{C}$        | $V_{ESD}$ | -    | 25   | kV                 |
| Junction temperature                                               | $T_J$     | -    | 125  | $^{\circ}\text{C}$ |
| Operating temperature                                              | $T_{OP}$  | -40  | 85   | $^{\circ}\text{C}$ |
| Storage temperature                                                | $T_{STG}$ | -55  | 150  | $^{\circ}\text{C}$ |
| Lead temperature                                                   | $T_L$     | -    | 260  | $^{\circ}\text{C}$ |

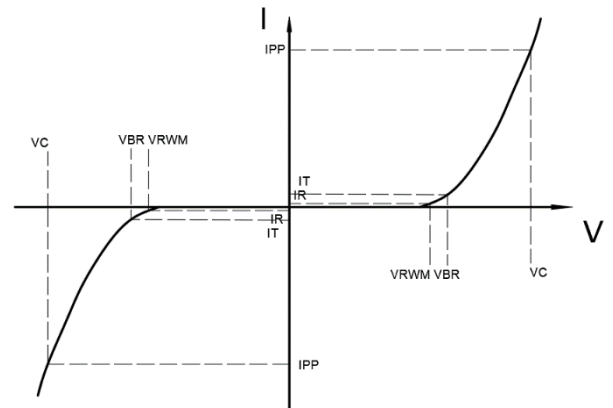
**Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

| Parameter               | Symbol    | Test Condition                                | Min | Typ | Max | Unit          |
|-------------------------|-----------|-----------------------------------------------|-----|-----|-----|---------------|
| Reverse Working Voltage | $V_{RWM}$ |                                               |     |     | 5   | V             |
| Breakdown Voltage       | $V_{BR}$  | $I_T = 1\text{mA}$                            | 5.6 |     |     | V             |
| Reverse Leakage Current | $I_R$     | $V_{RWM} = 5\text{V}$                         |     |     | 1   | $\mu\text{A}$ |
| Holding Voltage         | $V_C$     | $I_{PP}=1\text{A}; t_p=8/20\mu\text{s}$       |     | 8   |     | V             |
| Clamping Voltage        | $V_C$     | $I_{PP}=6\text{A}; t_p=8/20\mu\text{s}$       |     | 10  |     | V             |
| Junction Capacitance    | $C_J$     | I/O to GND; $V_R=0\text{V}$ ; $f=1\text{MHz}$ |     | 12  |     | pF            |

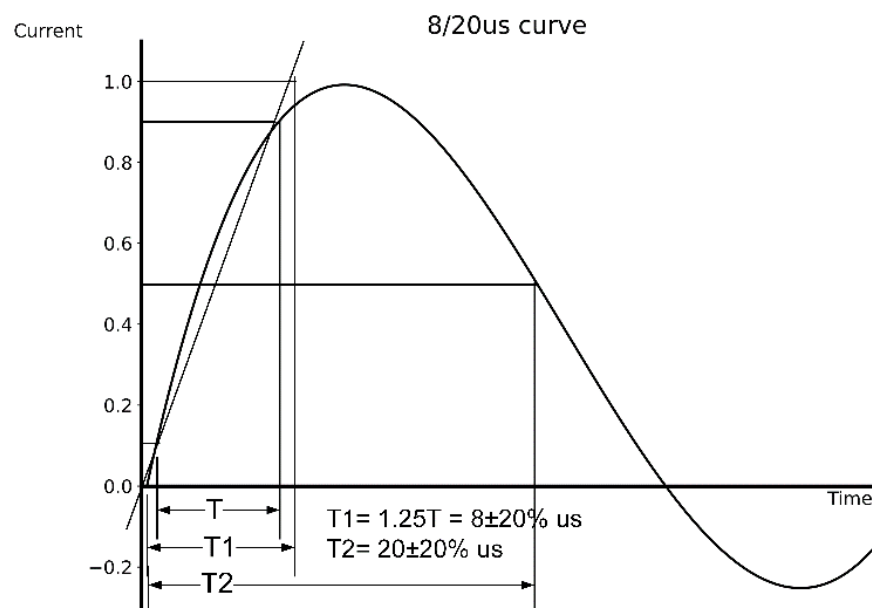


## Electrical Parameters

| Symbol    | Parameter                           |
|-----------|-------------------------------------|
| $V_{RWM}$ | Peak Reverse Working Voltage        |
| $I_R$     | Reverse Leakage Current @ $V_{RWM}$ |
| $V_{BR}$  | Breakdown Voltage @ $I_T$           |
| $I_T$     | Test Current                        |
| $I_{PP}$  | Maximum Reverse Peak Pulse Current  |
| $V_C$     | Clamping Voltage @ $I_{PP}$         |
| $I_F$     | Forward Current                     |
| $V_F$     | Forward Voltage @ $I_F$             |

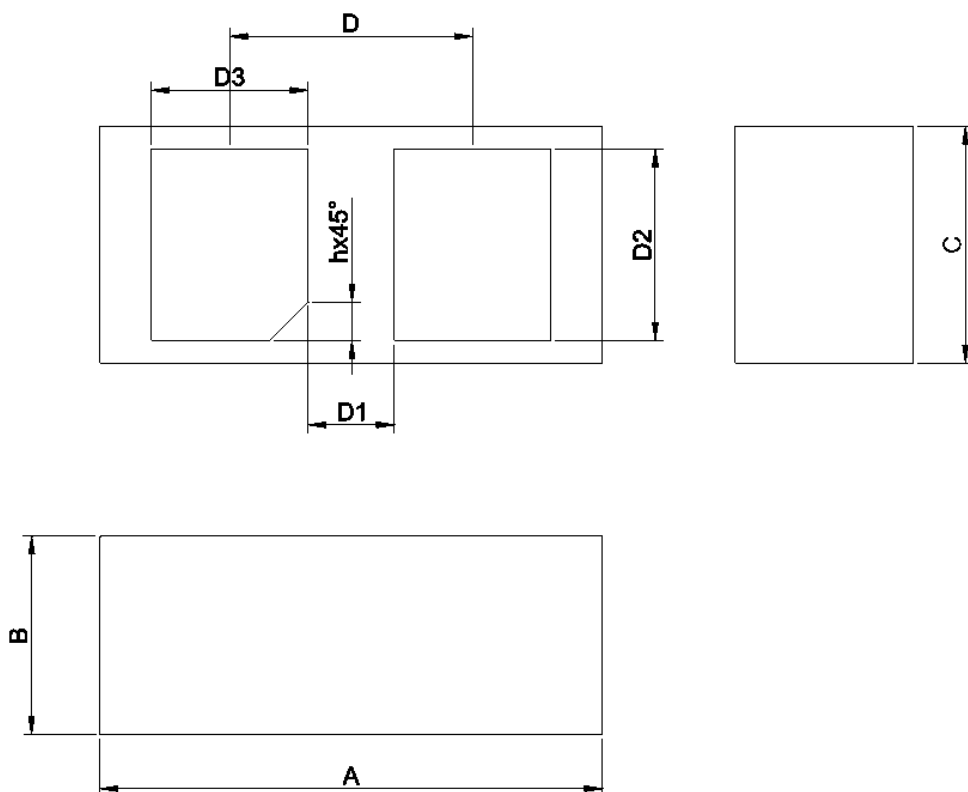


## Typical Characteristics





## Outline Drawing – DFN0603-2L



Units in millimeters

| SYMBOL | MIN      | NOM   | MAX   |
|--------|----------|-------|-------|
| A      | 0.585    | 0.600 | 0.635 |
| B      | 0.270    | 0.300 | 0.310 |
| C      | 0.285    | 0.310 | 0.335 |
| D      | 0.340REF |       |       |
| D1     | 0.150REF |       |       |
| D2     | 0.210    | 0.230 | 0.250 |
| D3     | 0.170    | 0.190 | 0.210 |