



## DWLC563T5V2U ESD Protection Diode

### Feature

- Uni-directional ESD protection of two lines
- Working voltage: 5V
- 60Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Junction Capacitance: 0.6pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2  $\pm 12kV$  contact  $\pm 17kV$  air
- IEC 61000-4-5 (Lightning) 4.5A ( $8/20\mu s$ )

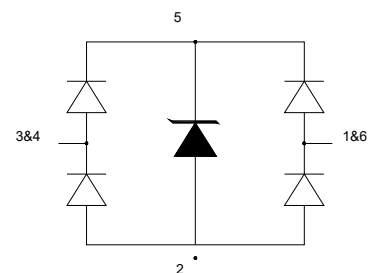
### Application

- HDMI/USB2.0
- Monitors and flat panel display
- 10/100/1000 ethernet
- Notebook computers
- SIM ports
- ATM interface

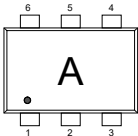
### Mechanical Data

- Package: SOT-563
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE compliant

### Schematic & PIN Configuration



### Ordering Information

| Part Number  | Package | Marking                                                                             | QTY per Reel | Reel Size |
|--------------|---------|-------------------------------------------------------------------------------------|--------------|-----------|
| DWLC563T5V2U | SOT-563 |  | 3000 pcs     | 7 inches  |



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

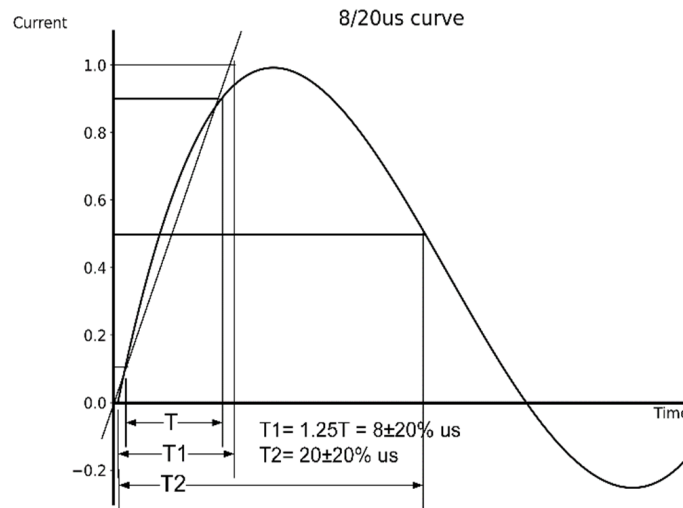
| Parameter                                    | Symbol    | Min. | Max.     | Unit               |
|----------------------------------------------|-----------|------|----------|--------------------|
| Peak pulse power ( $t_p=8/20\mu\text{s}$ )   | $P_{PK}$  | -    | 60       | W                  |
| Peak pulse current ( $t_p=8/20\mu\text{s}$ ) | $I_{PP}$  |      | 4.5      | A                  |
| ESD (IEC61000-4-2 air discharge)             | $V_{ESD}$ | -    | $\pm 17$ | kV                 |
| ESD (IEC61000-4-2 contact discharge)         | $V_{ESD}$ | -    | $\pm 12$ | kV                 |
| Junction temperature                         | $T_J$     | -    | 150      | $^{\circ}\text{C}$ |
| Operating temperature                        | $T_{OP}$  | -40  | 125      | $^{\circ}\text{C}$ |
| 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)

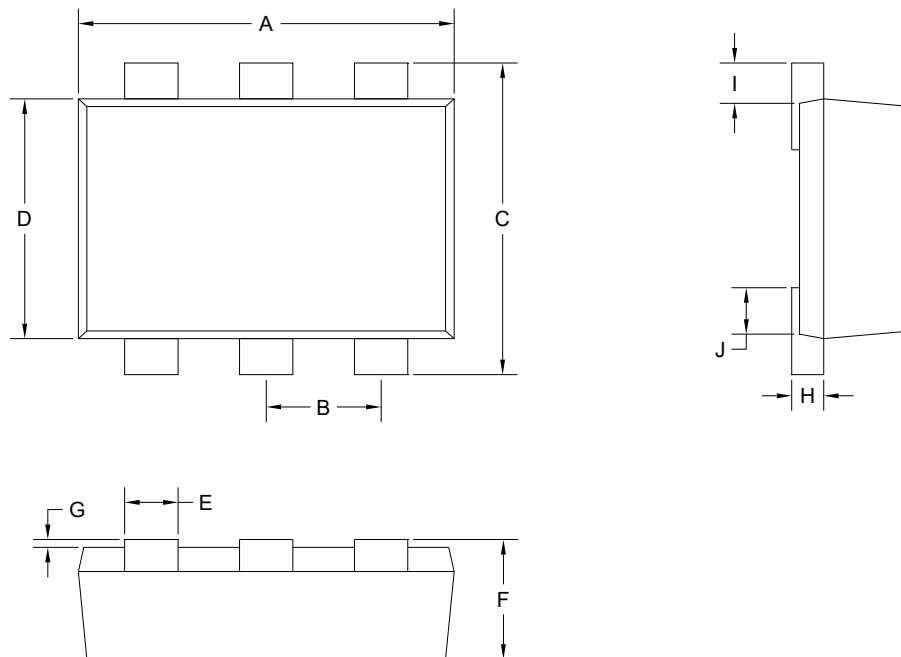
| Parameter                 | Symbol    | Conditions                                               | Min | Typ | Max | Unit          |
|---------------------------|-----------|----------------------------------------------------------|-----|-----|-----|---------------|
| Reverse stand-off voltage | $V_{RWM}$ |                                                          |     |     | 5   | V             |
| Reverse Breakdown Voltage | $V_{BR}$  | $I_{T=1\text{mA}}$                                       | 6   |     |     | V             |
| Reverse Leakage Current   | $I_R$     | $V_{RWM}=5\text{V}$                                      |     |     | 1   | $\mu\text{A}$ |
| Peak Pulse Current        | $I_{PP}$  | $T_P=8/20\mu\text{s}@25^{\circ}\text{C}$                 |     | 4.5 |     | A             |
| Clamping Voltage          | $V_{CL}$  | $I_{PP}=1\text{A}$ (8 x 20 $\mu\text{s}$ pulse)          |     | 8.5 |     |               |
| Clamping Voltage          | $V_{CL}$  | $I_{PP}=4.5\text{A}$ (8 x 20 $\mu\text{s}$ pulse)        |     | 12  |     | V             |
| Junction capacitance      | $C_J$     | I/O pins to ground;<br>$V_R=0\text{V}$ ; $f=1\text{MHz}$ |     | 0.6 |     | pF            |
|                           |           | Between I/O pins;<br>$V_R=0\text{V}$ ; $f=1\text{MHz}$   |     | 0.3 |     |               |



## Typical Characteristics



## SOT-563 Outline Drawing



Unit: mm

| symbol | A    | B    | C    | D | E | F | G    | H | I    | J    |
|--------|------|------|------|---|---|---|------|---|------|------|
| Min.   | 1.50 | 0.50 | 1.55 | 1 |   |   | 0.00 | 0 | 0.10 | 0.15 |
| Max.   | 1.70 | 0.60 | 1.70 | 1 |   |   | 0.05 | 0 | 0.30 | 0.20 |