

## Features

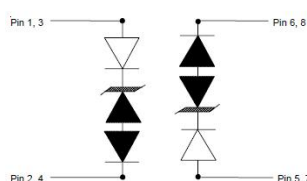
- ◇ 400W (8/20μs) Peak Pulse Power
- ◇ Low Voltage TVS Diode Array for ESD and Latch-Up Protection
- ◇ SOP-8 Package
- ◇ RoHS Compliant
- ◇ Matte Tin Lead finish (Pb-Free)
- ◇ Protects Four Lines
- ◇ Meet IEC61000-4-2 Level 4:  
Contact Discharge > 20kV Air  
Discharge > 20kV

SC  
SLVU2.8-4

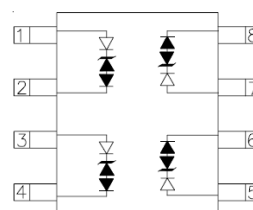
## Applications

- ◇ 10/100 Ethernet
- ◇ Base Stations
- ◇ Analog Inputs
- ◇ Switching Systems
- ◇ WAN/LAN Equipment
- ◇ Laser Diode Protection
- ◇ Desktops, Servers, Notebooks and Handhelds

Circuit Diagram



PIN Diagram



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

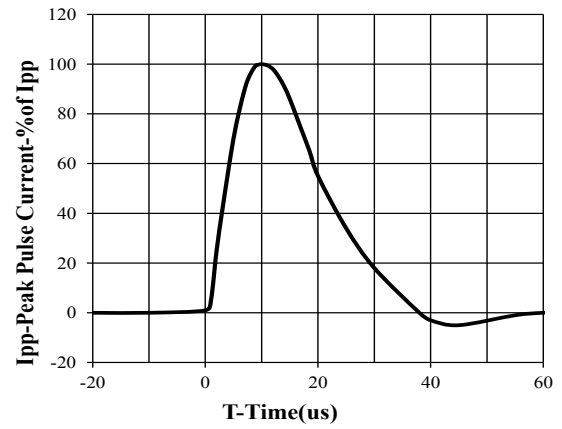
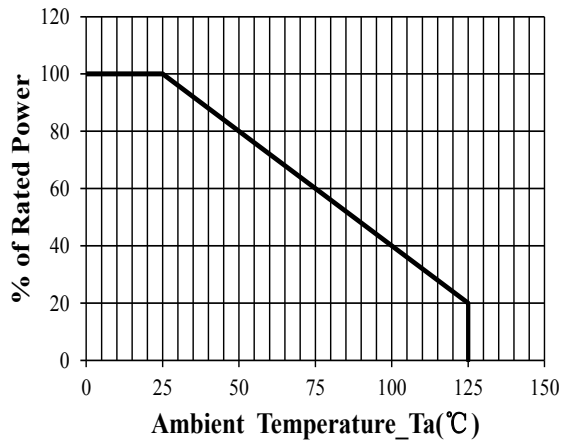
### Absolute Maximum Ratings

| Symbol         | Parameter                            | Value       | Unit |
|----------------|--------------------------------------|-------------|------|
| PPK            | Peak Pulse Power                     | 400         | W    |
| IPP            | Peak Pulse Current                   | 20          | A    |
| VESD (Contact) | Contact ESD Voltage per IEC61000-4-2 | 20          | kV   |
| VESD (Air)     | Air ESD Voltage per IEC61000-4-2     | 20          | kV   |
| TJ             | Junction Temperature                 | -55 to +125 | °C   |
| TSTG           | Storage Temperature                  | -55 to +150 | °C   |

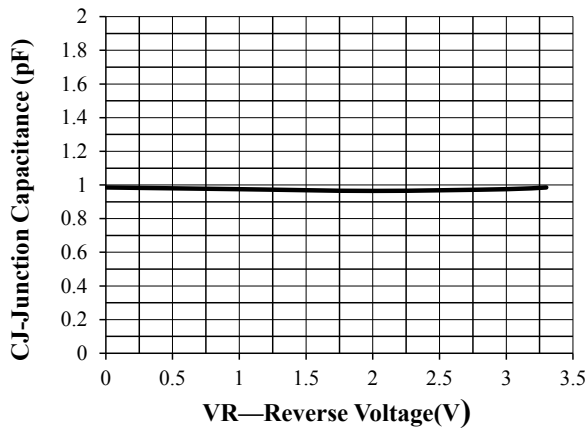
## Electrical Characteristics (T<sub>J</sub>=25°C unless otherwise specified)

| Symbol | Parameter                    | Conditions         | Min | Typ | Max | Unit |
|--------|------------------------------|--------------------|-----|-----|-----|------|
| VRWM   | Reverse Working Peak Voltage |                    |     |     | 2.8 | V    |
| VT     | Trigger Voltage              | IT = 2uA           | 3.0 |     |     | V    |
| VSB    | Snap-Back Voltage            | ISB = 50mA         | 2.8 |     |     | V    |
| IR     | Reverse Leakage Current      | VRWM = 2.8V        |     |     | 1   | μA   |
| VC     | Clamping Voltage             | IPP = 1A (8/20μs)  |     | 7   | 9   | V    |
| VC     | Clamping Voltage             | IPP = 5A (8/20μs)  |     | 9   | 12  | V    |
| VC     | Clamping Voltage             | IPP = 20A (8/20μs) |     | 16  | 20  | V    |
| CJ     | Capacitance                  | VR = 0V, f = 1MHz  |     | 1   | 5   | pF   |

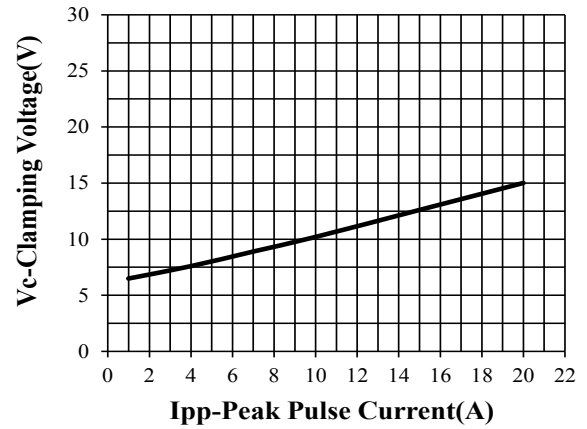
## RATING AND CHARACTERISTIC CURVES



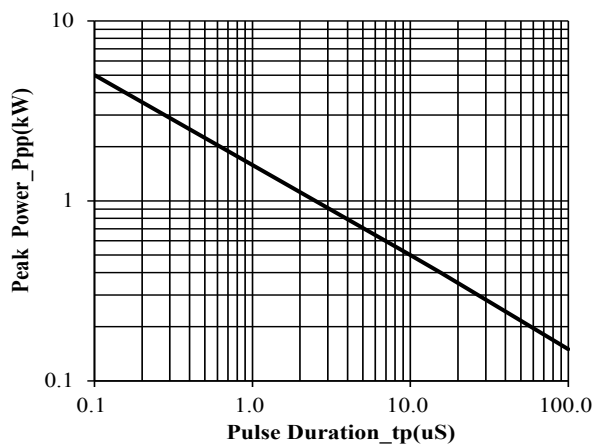
8 X 20us Pulse Waveform



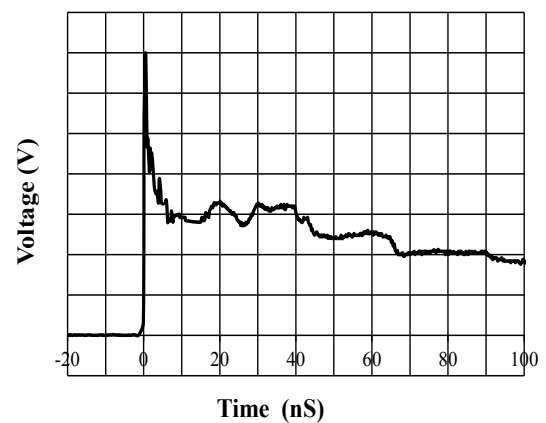
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current



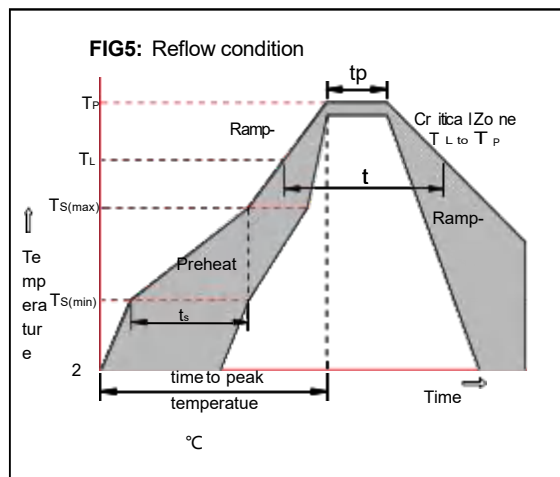
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

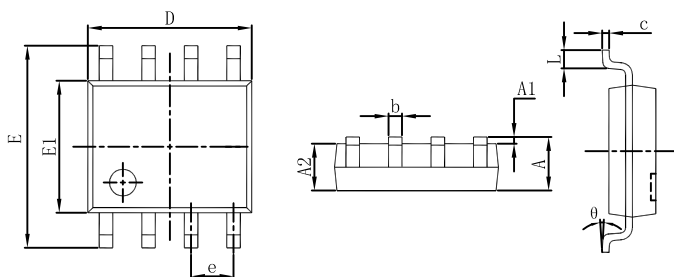
## Soldering parameters

| Reflow Condition                                        |                                   | Pb-Free assembly<br>(see as below) |
|---------------------------------------------------------|-----------------------------------|------------------------------------|
| Pre Heat                                                | -Temperature Min ( $T_{s(min)}$ ) | +150 °C                            |
|                                                         | -Temperature Max( $T_{s(max)}$ )  | +200 °C                            |
|                                                         | -Time (Min to Max) (ts)           | 60-180 secs.                       |
| Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak) |                                   | 3 °C/sec. Max                      |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                    |                                   | 3 °C/sec. Max                      |
| Reflow                                                  | -Temperature( $T_L$ )(Liquid us)  | +217 °C                            |
|                                                         | -Temperature( $t_L$ )             | 60-150 secs.                       |
| Peak Temp ( $T_P$ )                                     |                                   | +260(+0/-5) °C                     |
| Time within 5 °C of actual Peak Temp ( $t_P$ )          |                                   | 30 secs. Max                       |
| Ramp-down Rate                                          |                                   | 6 °C/sec. Max                      |
| Time 25 °C to Peak Temp ( $T_P$ )                       |                                   | 8 min. Max                         |
| Do not exceed                                           |                                   | +260 °C                            |

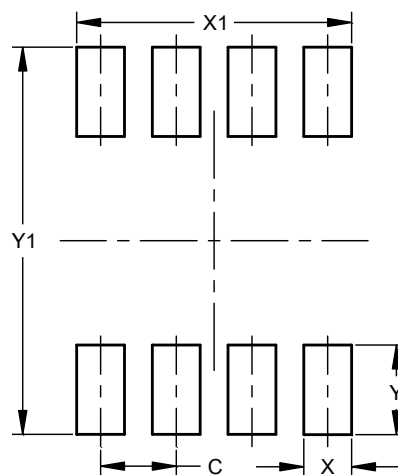


## Package Dimensions & Suggested Pad Layout

### SOP-8



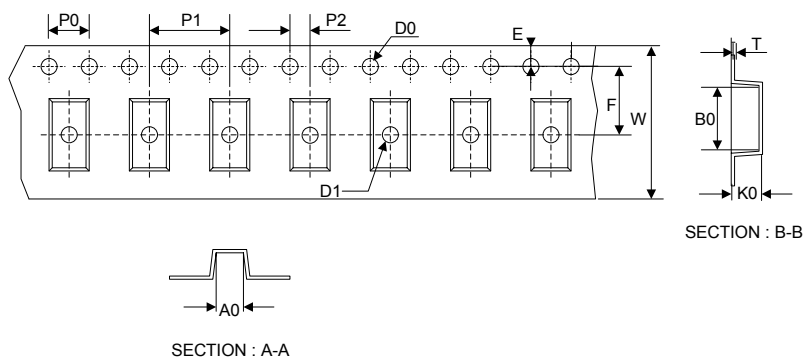
| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 1.350                     | 1.750 | 0.053                | 0.069 |
| A1     | 0.100                     | 0.250 | 0.004                | 0.010 |
| A2     | 1.350                     | 1.550 | 0.053                | 0.061 |
| b      | 0.330                     | 0.510 | 0.013                | 0.020 |
| c      | 0.170                     | 0.250 | 0.007                | 0.010 |
| D      | 4.800                     | 5.000 | 0.189                | 0.197 |
| e      | 1.270 (BSC)               |       | 0.050 (BSC)          |       |
| E      | 5.800                     | 6.200 | 0.228                | 0.244 |
| E1     | 3.800                     | 4.000 | 0.150                | 0.157 |
| L      | 0.400                     | 1.270 | 0.016                | 0.050 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |



| Dimensions | Value (in mm) |
|------------|---------------|
| C          | 1.27          |
| X          | 0.70          |
| X1         | 4.51          |
| Y          | 2.00          |
| Y1         | 7.00          |

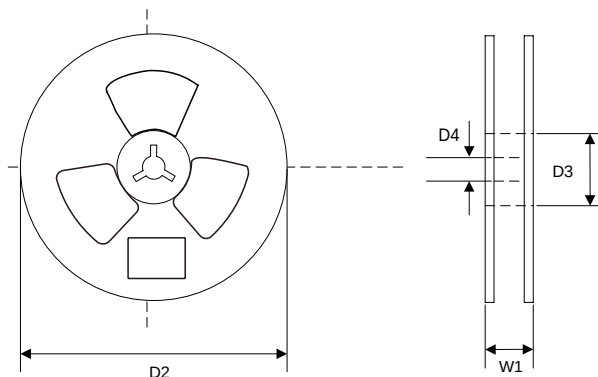
## Tape & reel specification

### Tape



| Symbol | Dimension (mm) |
|--------|----------------|
| P0     | 4.00±0.20      |
| P1     | 8.00±0.20      |
| P2     | 2.00±0.20      |
| D0     | 1.55±0.20      |
| D1     | 1.55±0.20      |
| E      | 1.75±0.15      |
| F      | 5.50±0.20      |
| W      | 12.00±0.20     |
| A0     | 7.00±0.20      |
| B0     | 5.70±0.20      |
| K0     | 1.35±0.20      |
| T      | 0.23±0.20      |

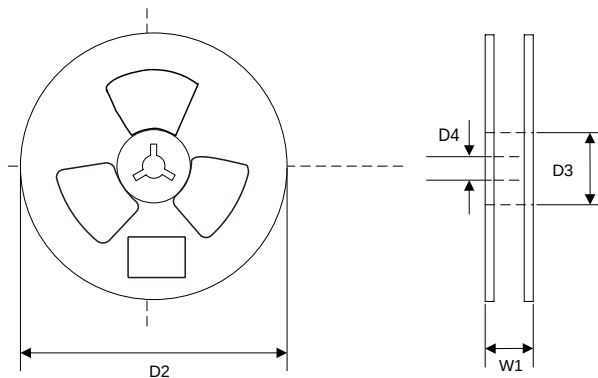
### 13" Reel



|    |           |
|----|-----------|
| D2 | 330.0±5.0 |
| D3 | 73Min.    |
| D4 | 13.5±2.5  |
| W1 | 16.0±3.0  |

Quantity: 3000PCS

### 13" Reel



|    |           |
|----|-----------|
| D2 | 330.0±5.0 |
| D3 | 73Min.    |
| D4 | 13.5±2.5  |
| W1 | 16.0±3.0  |

Quantity: 4000PCS