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台舟电子

# RCLAMP1521P

**1-Line Bi-directional TVS Diode**

www.sot23.com.tw

## Features

- Ultra small package: 1.0x0.6x0.5mm
- Ultra low capacitance:0.35pF typical
- Ultra low leakage: nA level
- Low operating voltage: ±15V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
- – IEC 61000-4-2 (ESD) immunity test
  - Air discharge: ±20kV
  - Contact discharge: ±15kV
- RoHS Compliant
- Lead Finish: NiPdAu

## Mechanical Characteristics

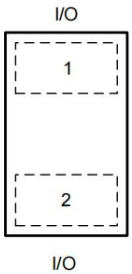
- Package: DFN1006-2 (0402)
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty :10000/7Inch Or 3000/7Inch Tape & Reel

## Applications

- Cellular Handsets & Accessories
- Digital Visual Interface (DVI)
- Display Port
- MDDI Ports
- USB Ports

## Dimensions and Pin Configuration




**Marking: CS Or ZZ**

**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| ESD per IEC 61000−4−2 (Air)<br>ESD per IEC 61000−4−2 (Contact) | $V_{ESD}$ | ±20<br>±15 | kV |
| Operating Temperature Range | $T_J$ | −55 to +125 | °C |
| Storage Temperature Range | Tstg | −55 to +150 | °C |

**Electrical Characteristics** (TA=25°C unless otherwise specified)

| Parameter | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|---|---|---|---|---|---|
| Reverse Working Voltage | $V_{RWM}$ | | | 15 | V | |
| Breakdown Voltage | $V_{BR}$ | 16.7 | 19 | 21 | V | $I_T$ = 1mA |
| Reverse Leakage Current | $I_R$ | | | 0.08 | uA | $V_{RWM}$ = 12V |
| Clamping Voltage | $V_C$ | | | 27 | V | Ipp=1A(8x 20us pulse) |
| Junction Capacitance | $C_J$ | | 0.35 | 0.5 | pF | VR = 0V, f = 1MHz |

## Typical Performance Characteristics ($T_A$=25°C unless otherwise Specified)

Fig1. 8/20μs Pulse Waveform

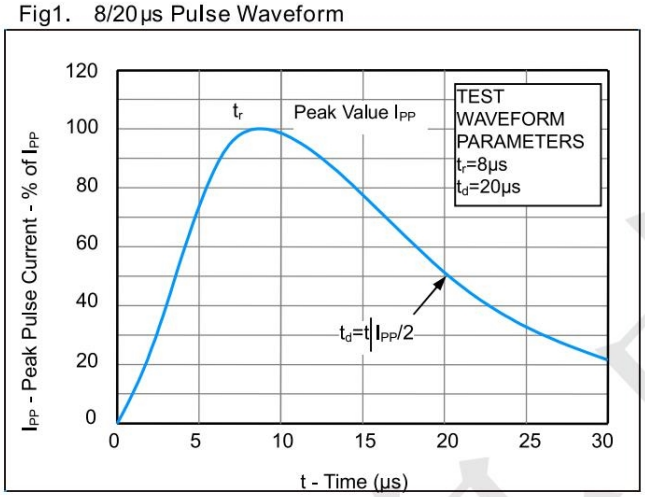



Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

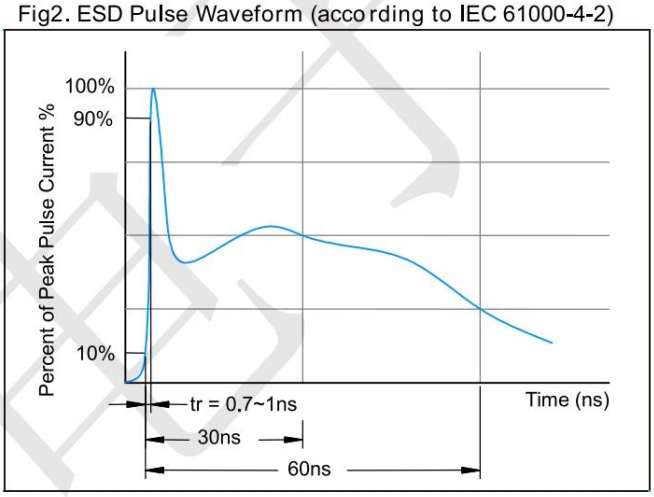
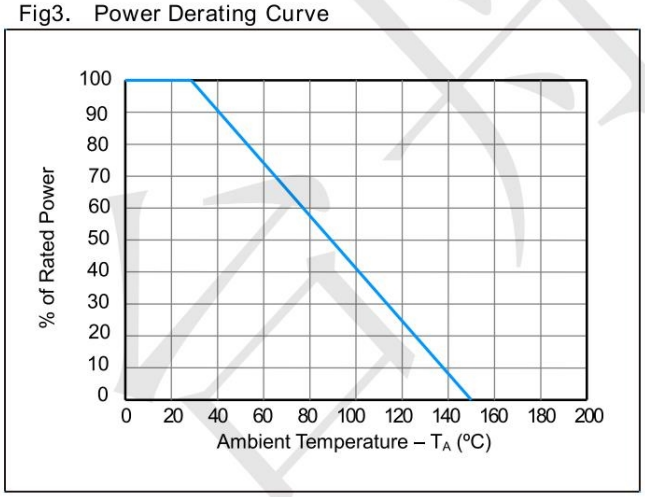
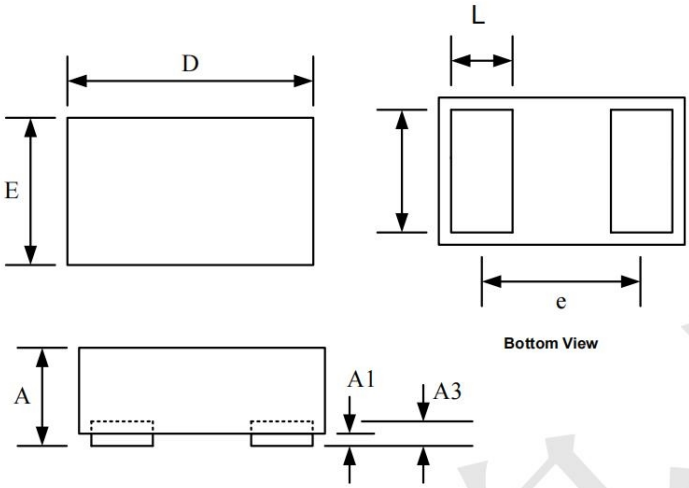



Fig3. Power Derating Curve

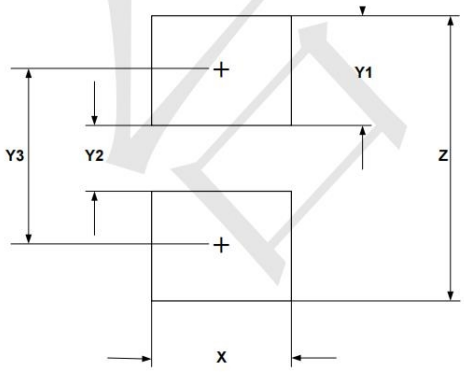


## DFN1006-2L Package Outline Drawing (0402)




| SYM | DIMENSIONS | | | | | |
|---|---|---|---|---|---|---|
| | MILLIMETERS | | | INCHES | | |
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.45 | 0.50 | 0.55 | 0.018 | 0.020 | 0.022 |
| A1 | 0.00 | 0.02 | 0.05 | 0.000 | 0.001 | 0.002 |
| b | 0.45 | 0.50 | 0.55 | 0.018 | 0.020 | 0.022 |
| c | 0.12 | 0.15 | 0.18 | 0.005 | 0.006 | 0.007 |
| D | 0.95 | 1.00 | 1.05 | 0.037 | 0.039 | 0.041 |
| e | 0.65 BSC | | | 0.026 BSC | | |
| E | 0.55 | 0.60 | 0.65 | 0.022 | 0.024 | 0.026 |
| L | 0.20 | 0.25 | 0.30 | 0.008 | 0.010 | 0.012 |
| h | 0.07 | 0.12 | 0.17 | 0.003 | 0.005 | 0.007 |

## Suggested Land Pattern




| SYM | DIMENSIONS | |
|---|---|---|
| | MILLIMETERS | INCHES |
| X | 0.60 | 0.024 |
| Y1 | 0.50 | 0.020 |
| Y2 | 0.30 | 0.012 |
| Y3 | 0.80 | 0.032 |
| Z | 1.30 | 0.052 |

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SI3932DV TPADM809LAKSZ TPS7B6950DBVR-TP TPSPX3819M5-L-3-3 FDC6301N-TP QM3003J-TP TPADM809SAKSZ TPB1A30-123 TPESD5311N ESD5B5.0ST1G-P TPAPX809S-31SA TPD1213A-02SM TPFMMT493 TPS3809L30DBVR-TP TPZVN3320FTA DDTA143ZCA DMP6350S LTH7 TPDMG6602SVT TPGC12C-1 FDMS7670AS-TP IRFR2405TRPBF-TP TPB05A40-323 BV15C TPESD0402G08V SN7002W TPESD0504S6-A TPWSB5557Z TPZXMP3A13FTA BSN20W