

Very Low Capacitance TVS/ESD Protection

Features

- * Bidirectional ESD protection of one line
- * IEC61000-4-2(ESD): $\pm 15\text{kV}$ Air, $\pm 8\text{kV}$ Contact Compliance with the capability up to $\pm 30\text{kV}$
- * IEC61000-4-4(EFT): 40A(5/50nS)
- * IEC61000-4-5(Lightning): 3.5A(8/20 μS)
- * Low leakage current, maximum of 0.1 μA at rated voltage
- * Lead free in compliance with EU RoHS 2011/65/EU directive.
- * Halogen Free

Mechanical Data

- * Case: SOT-23, Plastic
- * Terminals: Solderable per MIL-STD-750, Method 2026
- * Approx. Weight: 0.0003 ounces, 0.008 grams
- * Marking: RA

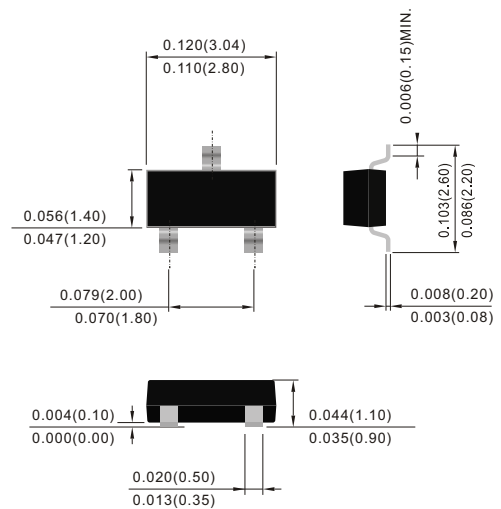
Applications

- * Mobile Phones and accessories
- * Desktops, Servers and Notebook
- * Hand held portable
- * Digital Cameras
- * Computer Interfaces Protection
- * Serial and Parallel Ports Protection
- * Control Signal Lines Protection

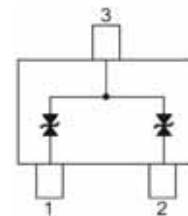
Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|--------------------------------|------------------|-------------|------------------|
| ESD IEC61000-4-2(Air) | V_{ESD} | ± 30 | kV |
| ESD IEC61000-4-2(Contact) | | ± 30 | |
| Operating Junction Temperature | T_J | -55 to +125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | $^\circ\text{C}$ |

SOT23



Dimensions in inches and (millimeters)



Top View

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

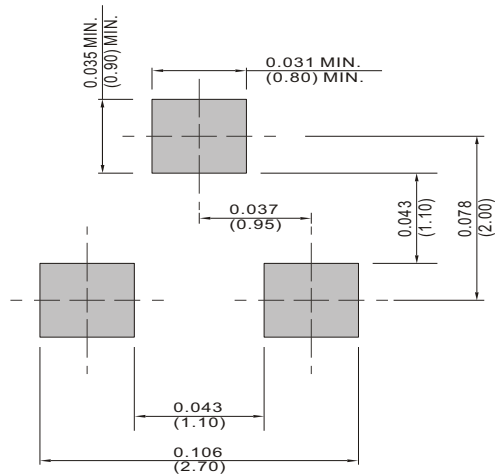
| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNITS |
|--------------------------------|-----------|--|------|------|------|---------------|
| Reverse Stand-Off Voltage | V_{RWM} | - | - | - | 5 | V |
| Snap-Break Voltage | V_{SB} | $I_{SB}=50\text{mA}$ | 5 | - | 8 | V |
| Reverse Leakage Current | I_R | $V_R=5.0\text{V}$ | - | - | 0.1 | μA |
| Clamping Voltage | V_{CL} | $I_{PP}=1\text{A}$, $t_P=8/20\mu\text{s}$ | - | - | 9 | V |
| | | $I_{PP}=3.5\text{A}$, $t_P=8/20\mu\text{s}$ | - | - | 12.5 | |
| Clamping Voltage TLP (Note 1) | V_{CL} | $I_{PP}=4\text{A}$, $t_P=100\text{ns}$ | - | 8.6 | - | V |
| | | $I_{PP}=8\text{A}$, $t_P=100\text{ns}$ | - | 9.7 | - | |
| Dynamic Resistance | R_{DYN} | $t_P=100\text{ns}$ | - | 0.27 | - | Ω |
| Off State Junction Capacitance | C_J | 0Vdc Bias $f=1\text{MHz}$ | - | - | 6 | pF |

NOTES :

1. Testing using Transmission Line Pulse (TLP) conditions: $Z_0 = 50\Omega$, $t_P = 100\text{ ns}$.

MOUNTING PAD LAYOUT

SOT23



Dimensions in inches and (millimeters)

RATING AND CHARACTERISTICS CURVES (ESD0215V0C)

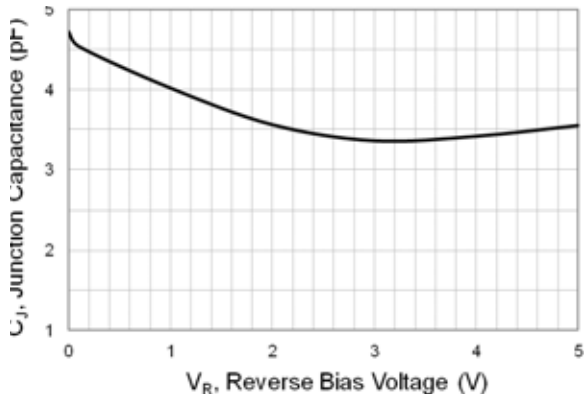


FIG.1 TYPICAL JUNCTION CAPACITANCE

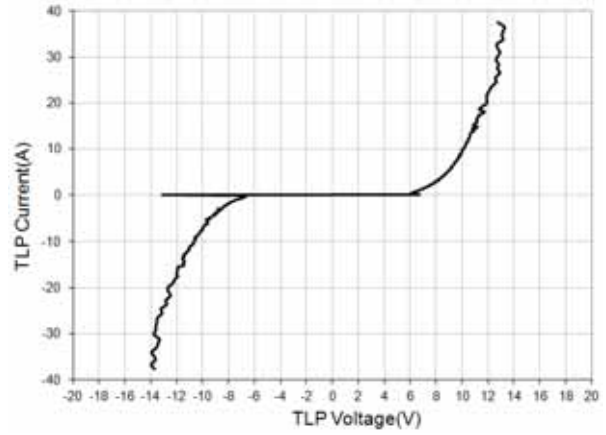


FIG.2 TRANSMISSION LINE PULSING (TLP) MEASUREMENT

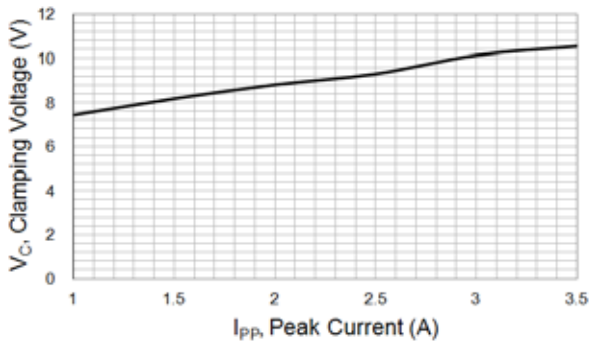


FIG.3 TYPICAL PEAK CLAMPING VOLTAGE(8/20 μ S)

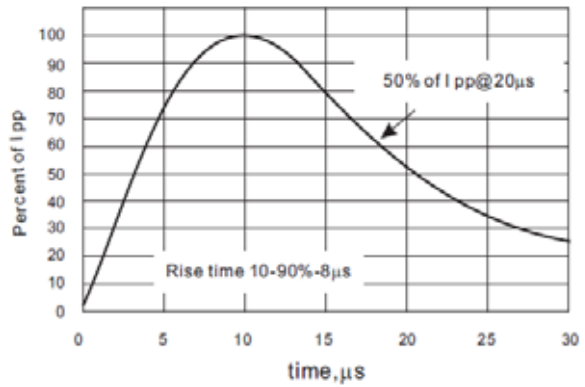


FIG.4 8/20 μ S PLUSE WAVEFORM

PACKAGING OF DIODE

REEL PACK

| PACKAGE | PACKING CODE | REEL (EA) | COMPONENT SPACE(mm) | TAPE SPACE (mm) | REEL DIA (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|------------|--------------|-------------|---------------------|-----------------|---------------|------------------|---------------|------------------|
| SOT-23/-3L | -T | 3,000 | --- | --- | 178 | 438*438*220 | 180,000 | --- |

DISCLAIMER NOTICE

Rectron Inc reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Rectron Inc or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on RECTRON data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. Rectron Inc does not assume any liability arising out of the application or use of any product or circuit.

Rectron products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Rectron Inc. Customers using or selling Rectron components for use in such applications do so at their own risk and shall agree to fully indemnify Rectron Inc and its subsidiaries harmless against all claims, damages and expenditures.