

## Small Signal Switching Diodes

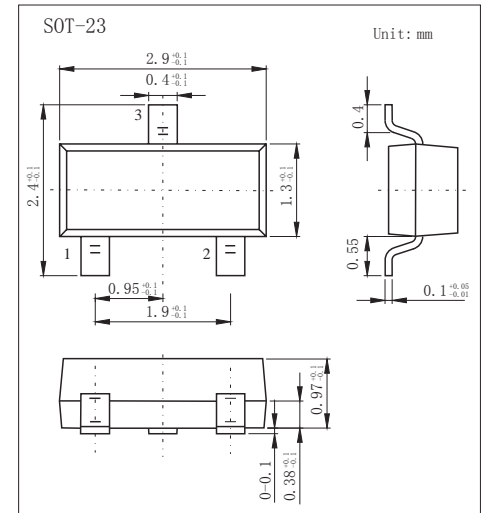
**VOLTAGE RANGE: 75V**  
**PEAK PULSE POWER: 250mW**

### Features

- Fast Switching Speed
- For General Purpose Switching Applications
- High Conductance

### MECHANICAL DATA

- Case: SOT-23 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

| Parameter  | Symbol              | Rating      | Unit |
|--|---------------------|-------------|------|
| Non-Repetitive Peak Reverse Voltage                    | V <sub>RM</sub>     | 100         | V    |
| Peak Repetitive Reverse Voltage                        | V <sub>RRM</sub>    |             |      |
| Working Peak Reverse Voltage                           | V <sub>RWM</sub>    | 75          | V    |
| DC Blocking Voltage                                    | V <sub>R</sub>      |             |      |
| RMS Reverse Voltage                                    | V <sub>R(RMS)</sub> | 53          | V    |
| Average Rectified Output Current                       | I <sub>O</sub>      | 200         | mA   |
| Forward Continuous Current                             | I <sub>FM</sub>     | 300         | mA   |
| Non-Repetitive Peak Forward Surge Current @ t = 1.0 μs | I <sub>FSM</sub>    | 2.0         | A    |
| @ t = 1.0s   |                     | 1.0         |      |
| Power Dissipation                                      | P <sub>d</sub>      | 250         | mW   |
| Thermal Resistance Junction to Ambient Air             | R <sub>θJA</sub>    | 357         | °C/W |
| Operating and Storage Temperature Range                | T, T <sub>STG</sub> | -55 to +150 | °C   |

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

| Parameter                 | Symbol             | Test conditions   | Min | Typ | Max   | Unit |
|---------------------------|--------------------|---|-----|-----|-------|------|
| Reverse Breakdown Voltage | V <sub>(BR)R</sub> | I <sub>R</sub> =100 μA  | 75  |     |       | V    |
| Forward Voltage           | V <sub>F</sub>     | I <sub>F</sub> = 1.0mA  |     |     | 0.715 | V    |
|                           |                    | I <sub>F</sub> = 10mA   |     |     | 0.855 |      |
|                           |                    | I <sub>F</sub> = 50mA   |     |     | 1.0   |      |
|                           |                    | I <sub>F</sub> = 150mA  |     |     | 1.25  |      |
| Leakage Current           | I <sub>R</sub>     | V <sub>R</sub> = 75V  |     |     | 1.0   | μA   |
|                           |                    | V <sub>R</sub> = 20V  |     |     | 25    | nA   |
| Junction Capacitance      | C <sub>j</sub>     | V <sub>R</sub> = 0, f = 1.0MHz  |     |     | 2     | pF   |
| Reverse Recovery Time     | t <sub>rr</sub>    | I <sub>F</sub> = I <sub>R</sub> = 10mA, I <sub>tr</sub> = 0.1 X I <sub>R</sub> , R <sub>L</sub> = 100 Ω |     |     | 4     | ns   |

### Marking

|         |     |
|---------|-----|
| Marking | A6t |
|---------|-----|

# RATINGS AND CHARACTERISTIC CURVES

## Typical Characteristics

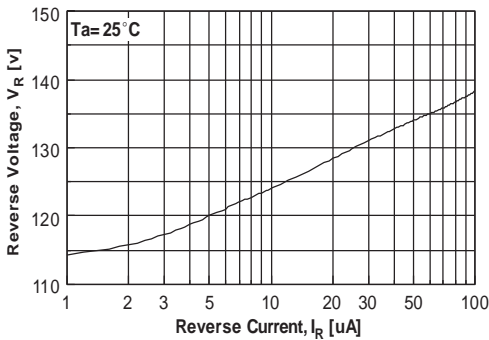


Figure 1. Reverse Voltage vs Reverse Current  
BV - 1.0 to 100  $\mu$ A

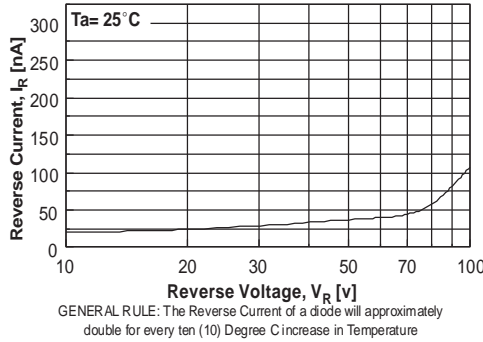


Figure 2. Reverse Current vs Reverse Voltage  
IR - 10 to 100 V

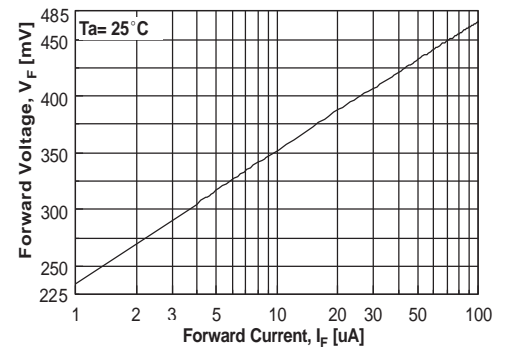


Figure 3. Forward Voltage vs Forward Current  
VF - 1.0 to 100  $\mu$ A

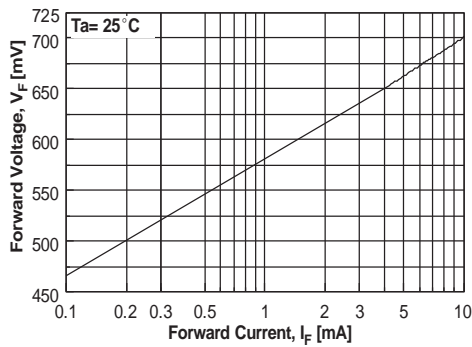


Figure 4. Forward Voltage vs Forward Current  
VF - 0.1 to 10 mA

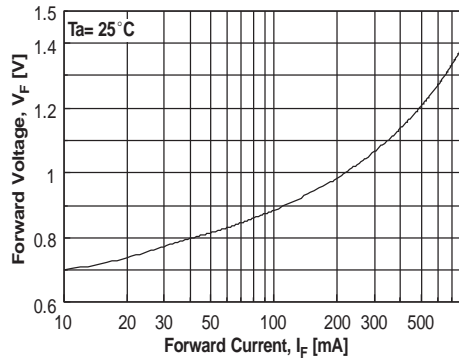


Figure 5. Forward Voltage vs Forward Current  
VF - 10 - 800 mA

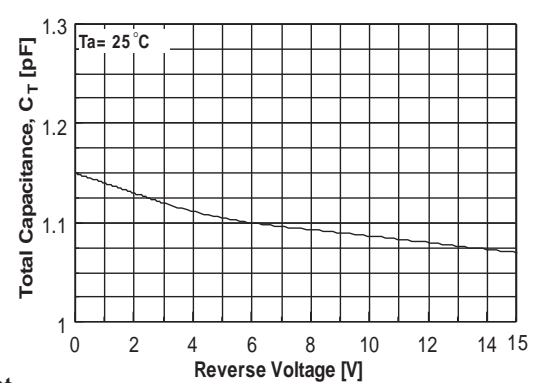


Figure 6. Total Capacitance

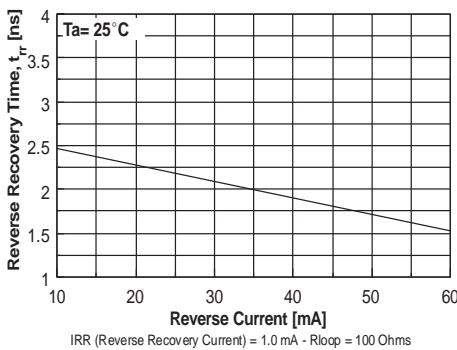


Figure 7. Reverse Recovery Time  
vs Reverse Current  
TRR - IR 10 mA vs 60 mA

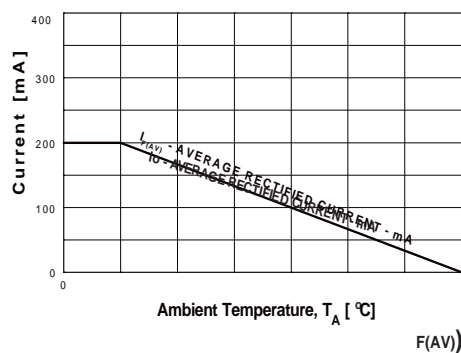


Figure 8. Average Rectified Current (I<sub>A</sub>)  
versus Ambient Temperature (T)

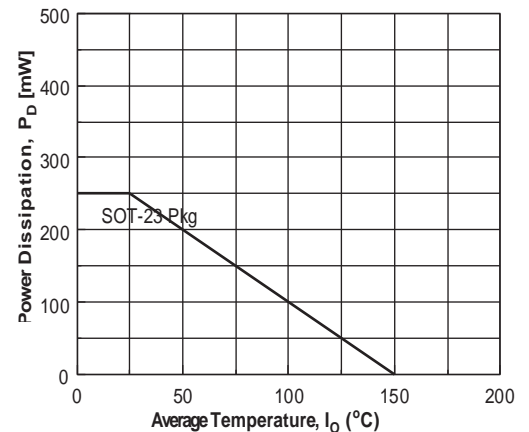


Figure 9. Power Derating Curve