

## 1SS362

## Ultra High Speed Switching Application

Unit: mm

- Small package
- Low forward voltage :  $V_F(3) = 0.97 \text{ V (typ.)}$
- Fast reverse recovery time:  $t_{rr} = 1.6 \text{ ns (typ.)}$
- Small total capacitance :  $C_T = 0.5 \text{ pF (typ.)}$

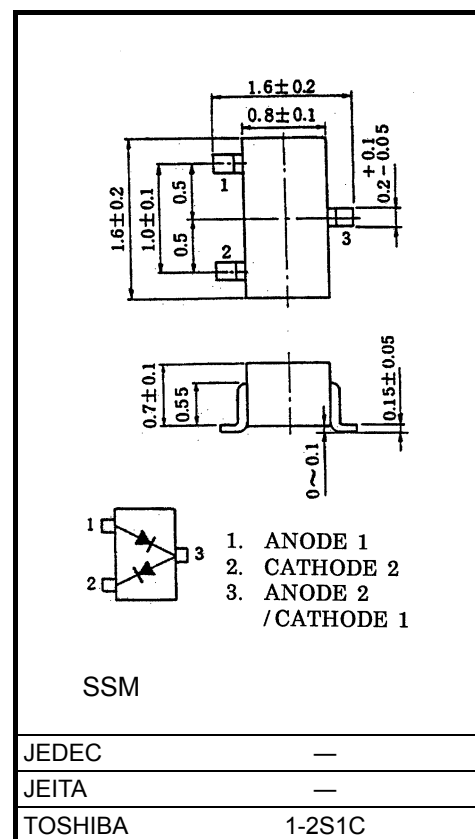
Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Characteristic                 | Symbol    | Rating     | Unit             |
|--------------------------------|-----------|------------|------------------|
| Maximum (peak) reverse voltage | $V_{RM}$  | 85         | V                |
| Reverse voltage                | $V_R$     | 80         | V                |
| Maximum (peak) forward current | $I_{FM}$  | 240 *      | mA               |
| Average forward current        | $I_O$     | 80 *       | mA               |
| Surge current (10ms)           | $I_{FSM}$ | 1 *        | A                |
| Power dissipation              | P         | 100        | mW               |
| Junction temperature           | $T_j$     | 125        | $^\circ\text{C}$ |
| Storage temperature            | $T_{stg}$ | -55 to 125 | $^\circ\text{C}$ |

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

\* Unit rating. Total rating = unit rating  $\times$  0.7



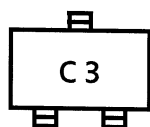
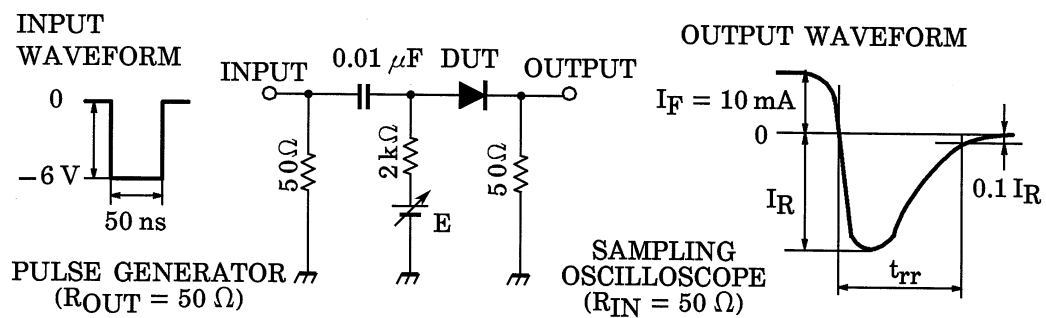
Weight: 2.4 mg (typ.)

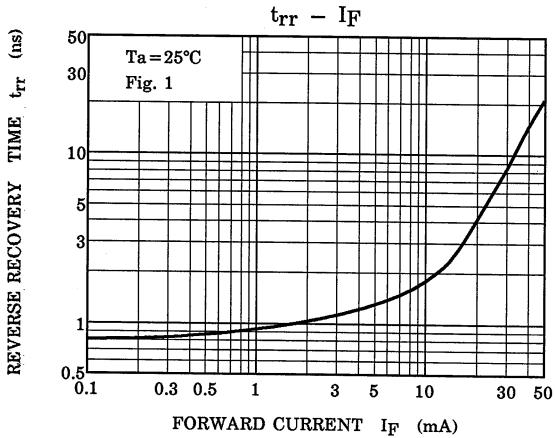
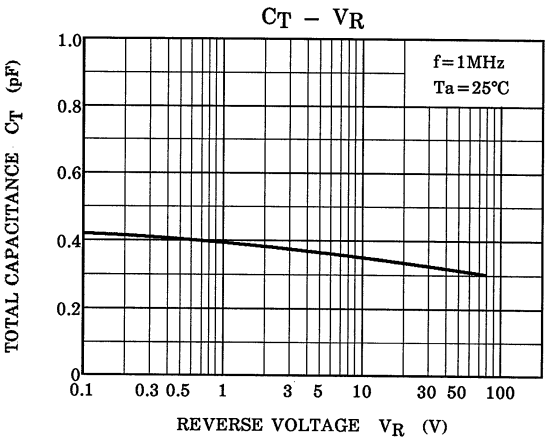
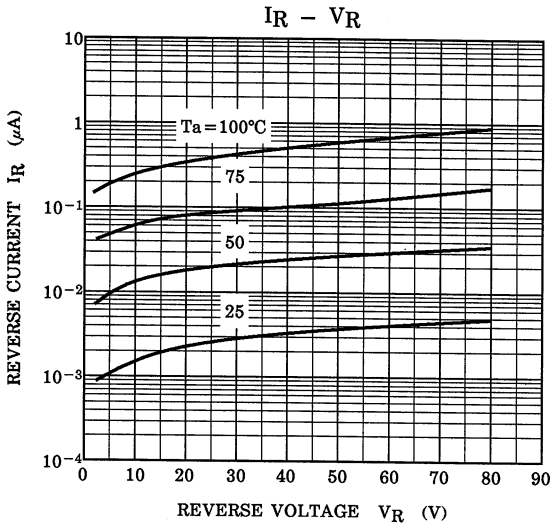
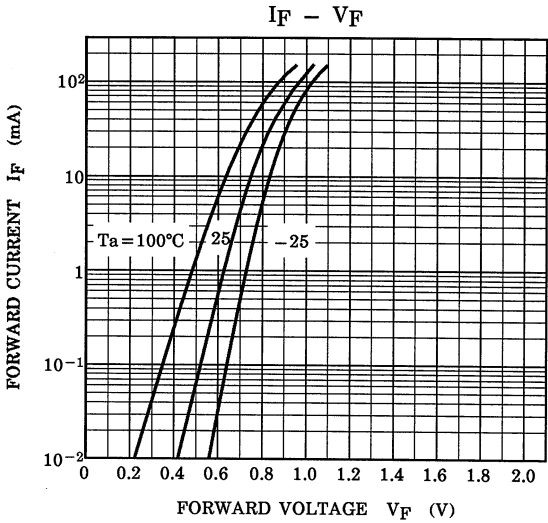
Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

| Characteristic        | Symbol   | Test Circuit | Test Condition               | Min | Typ. | Max  | Unit          |
|-----------------------|----------|--------------|------------------------------|-----|------|------|---------------|
| Forward voltage       | $V_F(1)$ | —            | $I_F = 1 \text{ mA}$         | —   | 0.63 | —    | V             |
|                       | $V_F(2)$ | —            | $I_F = 10 \text{ mA}$        | —   | 0.75 | —    |               |
|                       | $V_F(3)$ | —            | $I_F = 100 \text{ mA}$       | —   | 0.97 | 1.20 |               |
| Reverse current       | $I_R(1)$ | —            | $V_R = 30 \text{ V}$         | —   | —    | 0.1  | $\mu\text{A}$ |
|                       | $I_R(2)$ | —            | $V_R = 80 \text{ V}$         | —   | —    | 0.5  |               |
| Total capacitance     | $C_T$    | —            | $V_R = 0, f = 1 \text{ MHz}$ | —   | 0.5  | 3.0  | pF            |
| Reverse recovery time | $t_{rr}$ | —            | $I_F = 10 \text{ mA, Fig.1}$ | —   | 1.6  | 4.0  | ns            |

Start of commercial production  
1990-10

## Marking

Fig.1 Reverse Recovery Time ( $t_{rr}$ ) Test Circuit



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