

TOSHIBA Diode Silicon Epitaxial Planar Type

## 1SS360

## Ultra High Speed Switching Application

- AEC-Q101 Qualified (Note1)
- Small package
- Low forward voltage :  $V_F(3) = 0.92\text{ V (typ.)}$
- Fast reverse recovery time:  $t_{rr} = 1.6\text{ ns (typ.)}$
- Small total capacitance :  $C_T = 2.2\text{ pF (typ.)}$

Note1: For detail information, please contact our sales.

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 | $I_{FM}$           | 300 *      | mA               |
| Average forward current        | $I_O$              | 100 *      | mA               |
| Surge current (10ms)           | $I_{FSM}$          | 2 *        | A                |
| Power dissipation              | $P_D$ (Note 2, 4)  | 120        | mW               |
|                                | $P_D$ (Note 3)     | 100        |                  |
| Junction temperature           | $T_j$ (Note 2)     | 150        | $^\circ\text{C}$ |
|                                | $T_j$ (Note 3)     | 125        |                  |
| Storage temperature            | $T_{stg}$ (Note 2) | -55 to 150 | $^\circ\text{C}$ |
|                                | $T_{stg}$ (Note 3) | -55 to 125 |                  |

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).

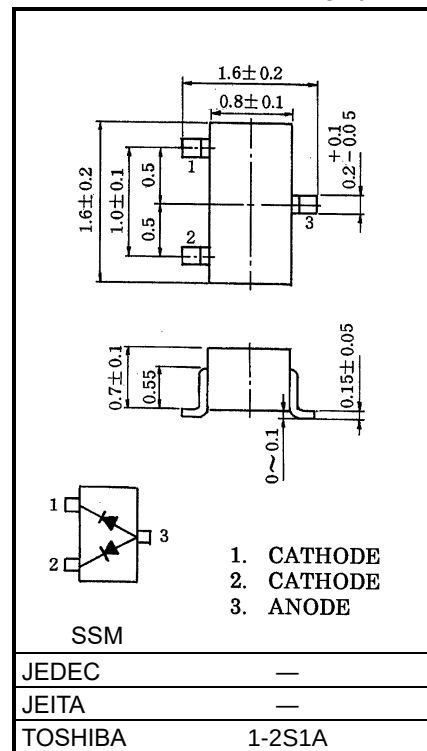
Note 2: For devices with the ordering part number ending in LJ(CT).

Note 3: For devices with the ordering part number in other than LJ(CT).

Note 4: Mounted on a FR4 board. (25.4 mm × 25.4 mm × 1.6 mm, Cu pad: 0.36 mm<sup>2</sup> × 3)

\*: Unit rating. Total rating = Unit rating × 1.5.

Unit: mm



Weight: 2.4mg (typ.)

Start of commercial production  
1990-10

Electrical Characteristics (Ta = 25°C)

| Characteristic        | Symbol             | Test Condition                  | Min | Typ. | Max  | Unit |
|-----------------------|--------------------|---------------------------------|-----|------|------|------|
| Forward voltage       | V <sub>F</sub> (1) | I <sub>F</sub> = 1 mA           | —   | 0.61 | —    | V    |
|                       | V <sub>F</sub> (2) | I <sub>F</sub> = 10 mA          | —   | 0.74 | —    |      |
|                       | V <sub>F</sub> (3) | I <sub>F</sub> = 100 mA         | —   | 0.92 | 1.20 |      |
| Reverse current       | I <sub>R</sub> (1) | V <sub>R</sub> = 30 V           | —   | —    | 0.1  | μA   |
|                       | I <sub>R</sub> (2) | V <sub>R</sub> = 80 V           | —   | —    | 0.5  |      |
| Total capacitance     | C <sub>T</sub>     | V <sub>R</sub> = 0 V, f = 1 MHz | —   | 2.2  | 4.0  | pF   |
| Reverse recovery time | t <sub>rr</sub>    | I <sub>F</sub> = 10 mA, Fig.1   | —   | 1.6  | 4.0  | ns   |

Marking

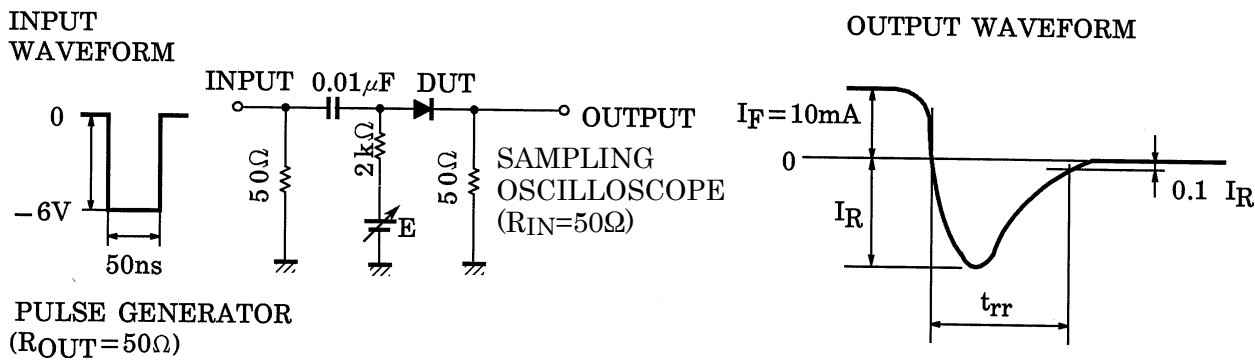
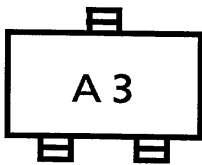
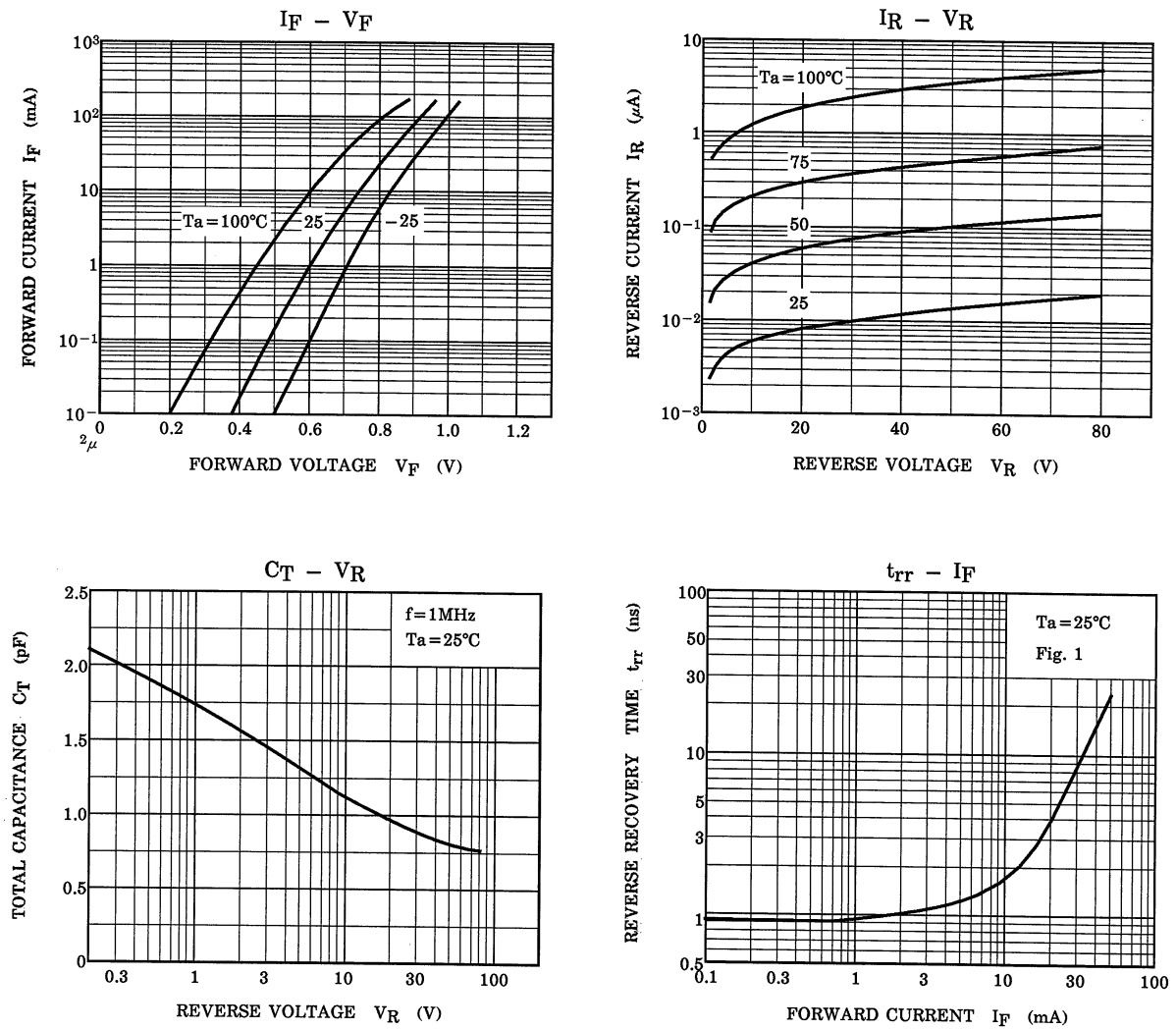


Fig.1 Reverse recovery time (t<sub>rr</sub>) test circuit

## Characteristics Curves



The above characteristics curves are presented for reference only and not guaranteed by production test, unless otherwise noted.

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