

TOSHIBA Diode Silicon Epitaxial Planar Type

# 1SS250

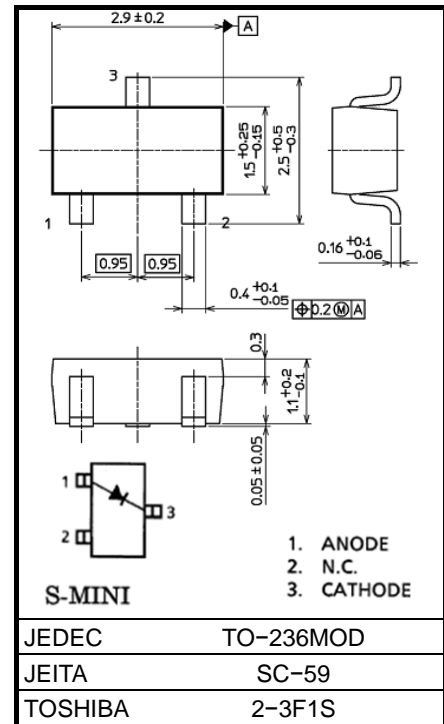
Unit: mm

## Ultra High Speed Switching Application

- Low forward voltage :  $V_F (2) = 0.90V$  (typ.)
- Fast reverse recovery time:  $t_{rr} = 60ns$  (max)
- Small total capacitance :  $C_T = 1.5pF$  (typ.)
- Small package : SC-59

## Absolute Maximum Ratings (Ta = 25°C)

| Characteristic            | Symbol    | Rating     | Unit |
|---------------------------|-----------|------------|------|
| Peak reverse voltage      | $V_{RM}$  | 250        | V    |
| Reverse voltage           | $V_R$     | 200        | V    |
| Peak forward current      | $I_{FM}$  | 300        | mA   |
| Average forward current   | $I_O$     | 100        | mA   |
| Surge current (10 ms)     | $I_{FSM}$ | 2          | A    |
| Power dissipation         | P         | 150        | mW   |
| Junction temperature      | $T_j$     | 125        | °C   |
| Storage temperature range | $T_{stg}$ | -55 to 125 | °C   |



Weight: 12 mg (typ.)

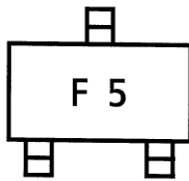
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

Start of commercial production  
1984-05

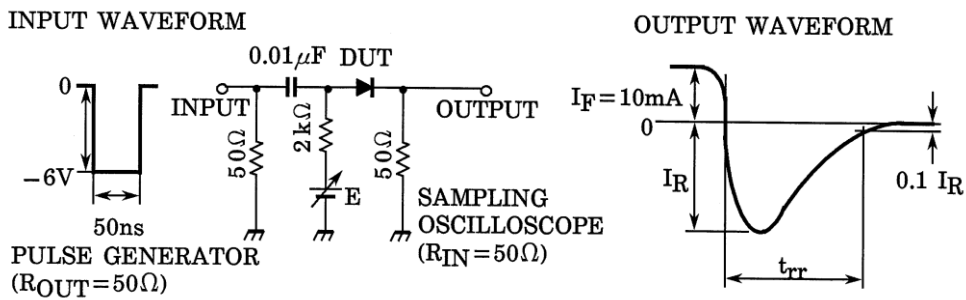
**Electrical Characteristics (Ta = 25°C)**

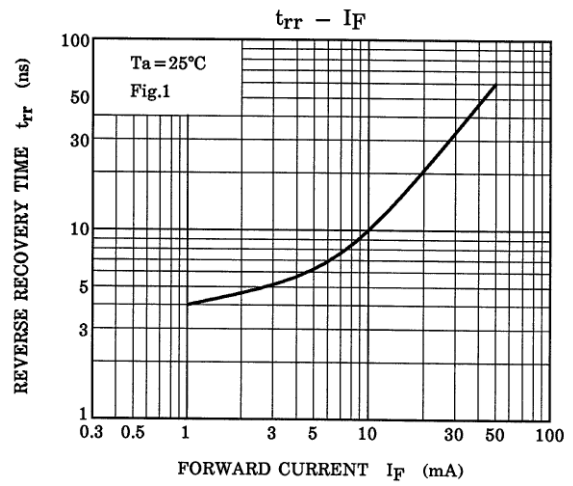
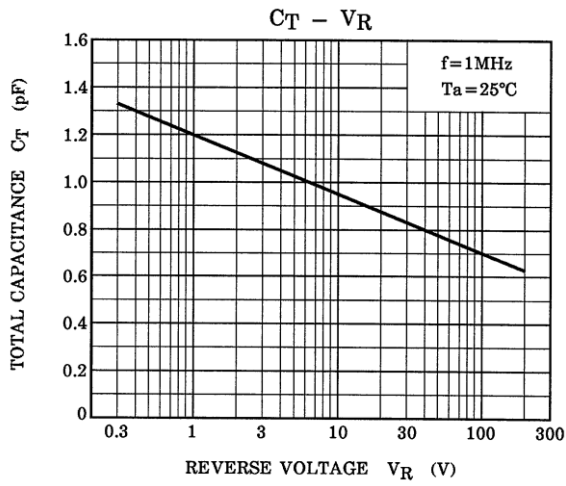
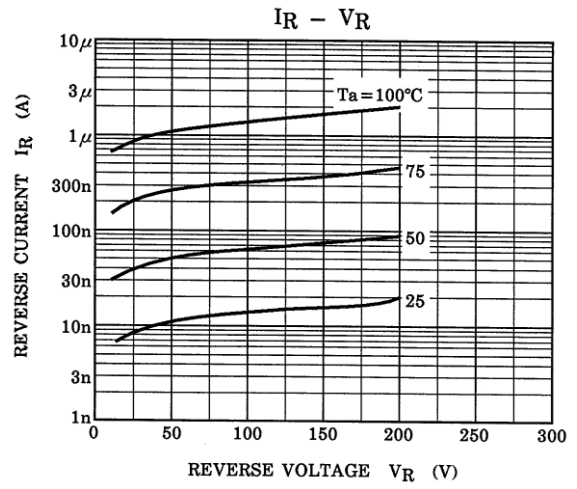
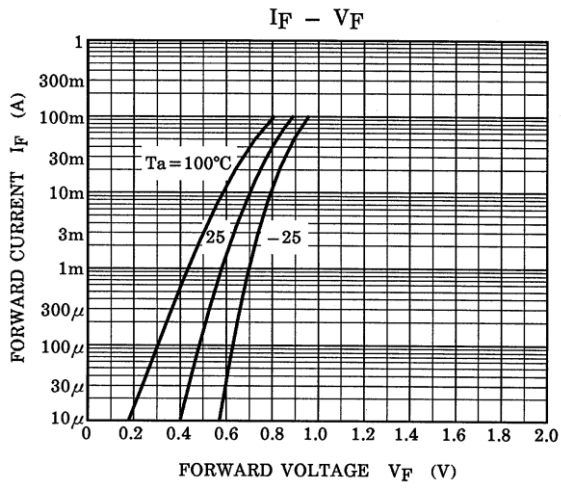
| Characteristic        | Symbol             | Test Condition                | Min | Typ. | Max  | Unit |
|-----------------------|--------------------|-------------------------------|-----|------|------|------|
| Forward voltage       | V <sub>F</sub> (1) | I <sub>F</sub> = 10mA         | —   | 0.72 | 1.00 | V    |
|                       | V <sub>F</sub> (2) | I <sub>F</sub> = 100mA        | —   | 0.90 | 1.20 |      |
| Reverse current       | I <sub>R</sub> (1) | V <sub>R</sub> = 50V          | —   | —    | 0.1  | μA   |
|                       | I <sub>R</sub> (2) | V <sub>R</sub> = 200V         | —   | —    | 1.0  |      |
| Total capacitance     | C <sub>T</sub>     | V <sub>R</sub> = 0V, f = 1MHz | —   | 1.5  | 3.0  | pF   |
| Reverse recovery time | t <sub>rr</sub>    | I <sub>F</sub> = 10mA (Fig.1) | —   | 10   | 60   | ns   |

**Marking**



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





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