

TOSHIBA Diode Silicon Epitaxial Planar Type

## 1SS361CT

## Ultra High Speed Switching Application

Unit: mm

- Small package
- Low forward voltage:  $V_F(3) = 0.9\text{ V (typ.)}$
- Fast reverse recovery time:  $t_{rr} = 1.6\text{ ns (typ.)}$
- Small total capacitance:  $C_T = 0.9\text{ pF (typ.)}$

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

\*: Unit rating. Total rating = Unit rating  $\times$  1.5\*\*: Mounted on FR4 board (10 mm  $\times$  10 mm  $\times$  1 mm (t))

|                        |  |         |        |
|------------------------|--|---------|--------|
|                        |  | JEDEC   | —      |
|                        |  | JEITA   | —      |
|                        |  | TOSHIBA | 1-1S1S |
| Weight: 0.75 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.

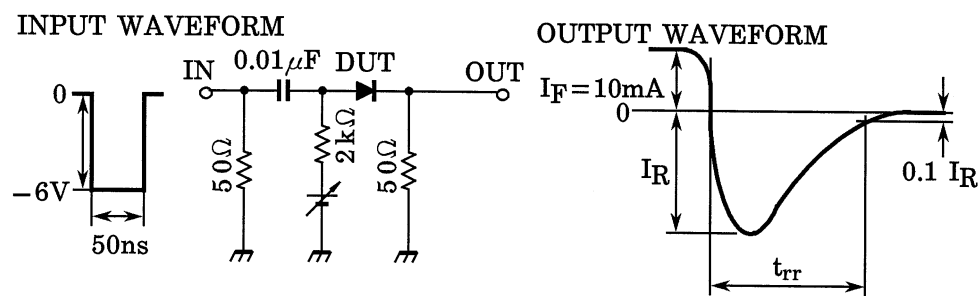
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

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

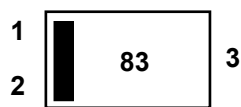
| Characteristic        | Symbol   | Test Condition                       | Min | Typ. | Max | Unit          |
|-----------------------|----------|--------------------------------------|-----|------|-----|---------------|
| Forward voltage       | $V_F(1)$ | $I_F = 1\text{ mA}$                  | —   | 0.60 | —   | V             |
|                       | $V_F(2)$ | $I_F = 10\text{ mA}$                 | —   | 0.72 | —   |               |
|                       | $V_F(3)$ | $I_F = 100\text{ mA}$                | —   | 0.90 | 1.2 |               |
| 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     | $C_T$    | $V_R = 0\text{ V}, f = 1\text{ MHz}$ | —   | 0.9  | 3.0 | pF            |
| Reverse recovery time | $t_{rr}$ | $I_F = 10\text{ mA}, \text{Fig.1}$   | —   | 1.6  | —   | ns            |

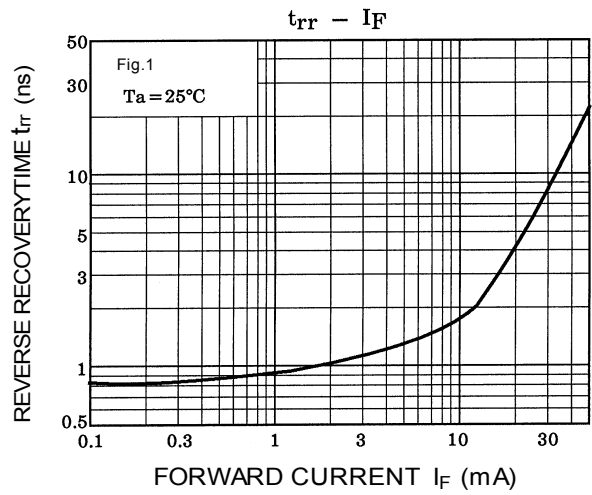
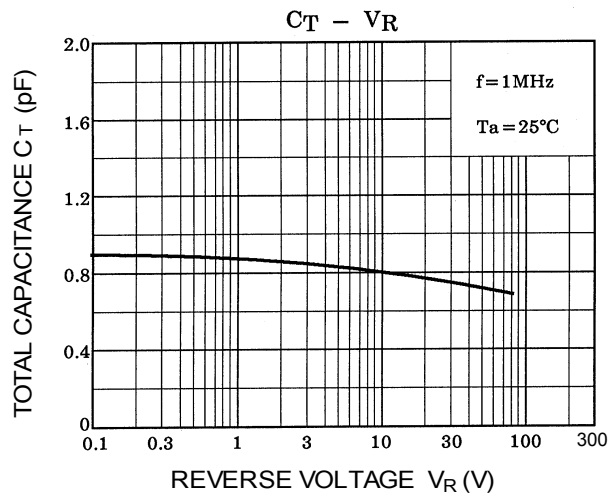
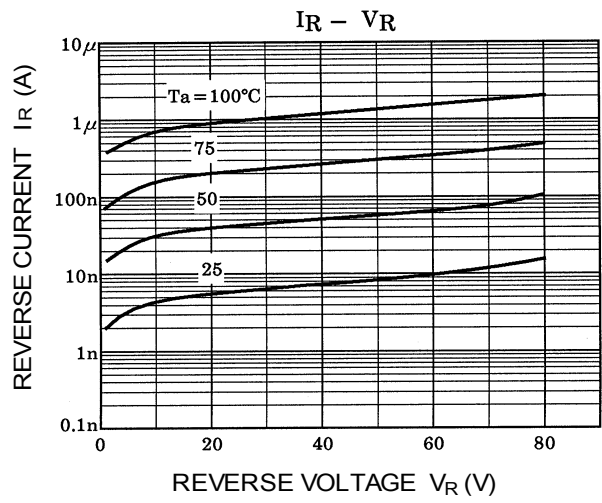
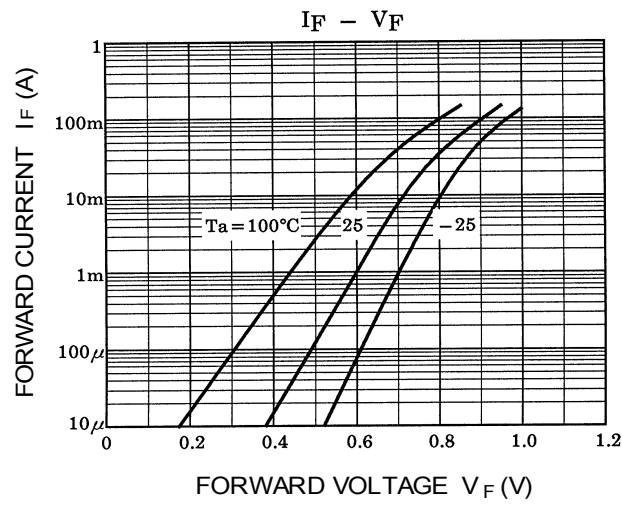
Start of commercial production  
2004-08

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



Marking





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