

TOSHIBA Diode Silicon Epitaxial Planar Type

1SS362FV

Ultra-High-Speed Switching Applications

- Small package
- Excellent in forward current and forward voltage characteristics: $V_F(3) = 0.97 \text{ V (typ.)}$
- Fast reverse recovery time: $t_{rr} = 1.6 \text{ ns (typ.)}$
- Small total capacitance: $C_T = 0.9 \text{ pF (typ.)}$

Absolute Maximum Ratings (Ta = 25°C)

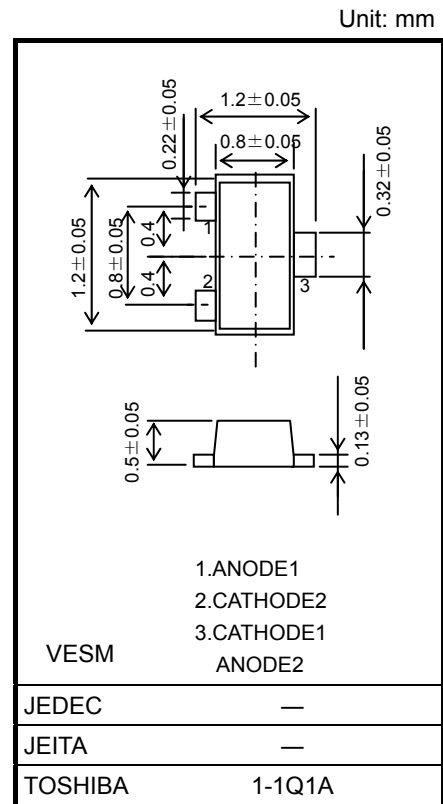
| Characteristic | Symbol | Rating | Unit |
|--------------------------------|-----------|------------|------|
| Maximum (peak) reverse voltage | V_{RM} | 85 | V |
| Reverse voltage | V_R | 80 | V |
| Maximum (peak) forward current | I_{FM} | 300 * | mA |
| Average forward current | I_O | 100 * | mA |
| Surge current (10 ms) | I_{FSM} | 1 * | A |
| Power dissipation | P | 150 ** | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature range | T_{stg} | -55 to 150 | °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.

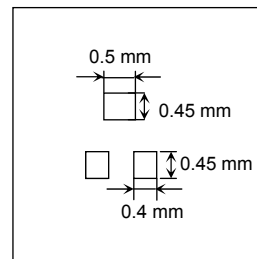
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

*: Unit rating. Total rating = unit rating × 0.7

** : Mounted on an FR4 board (25.4 mm × 25.4 mm × 1.6 mm (t))



Weight: 1.5 mg (typ.)

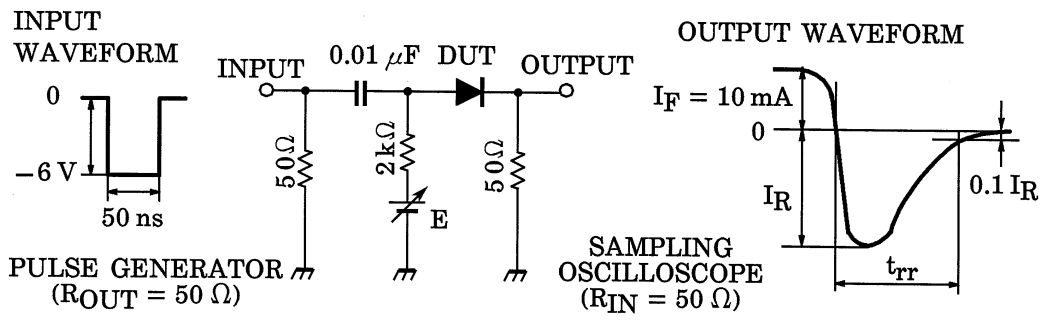


Electrical Characteristics (Ta = 25°C)

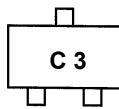
| Characteristic | Symbol | Test Circuit | Test Condition | Min | Typ. | Max | Unit |
|-----------------------|----------|--------------|--|-----|------|------|---------------|
| Forward voltage | $V_F(1)$ | — | $I_F = 1 \text{ mA}$ | — | 0.63 | — | V |
| | $V_F(2)$ | — | $I_F = 10 \text{ mA}$ | — | 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 | μA |
| | $I_R(2)$ | — | $V_R = 80 \text{ V}$ | — | — | 0.5 | |
| Total capacitance | C_T | — | $V_R = 0 \text{ V}, f = 1 \text{ MHz}$ | — | 0.9 | — | pF |
| Reverse recovery time | t_{rr} | — | $I_F = 10 \text{ mA}$ (Fig. 1) | — | 1.6 | 4.0 | ns |

Start of commercial production
2004-09

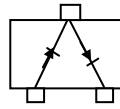
Fig. 1 Reverse Recovery Time (t_{rr}) Test Circuit

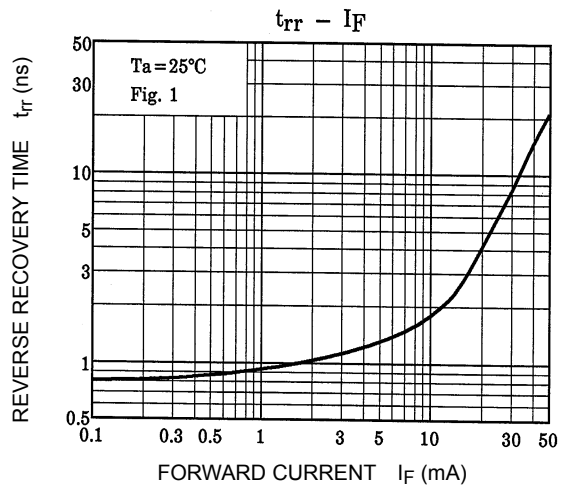
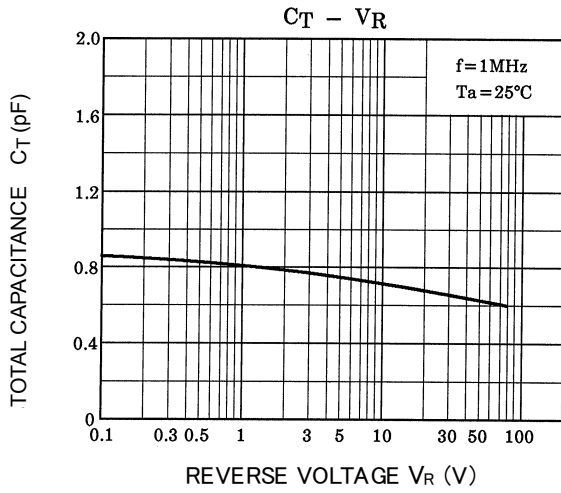
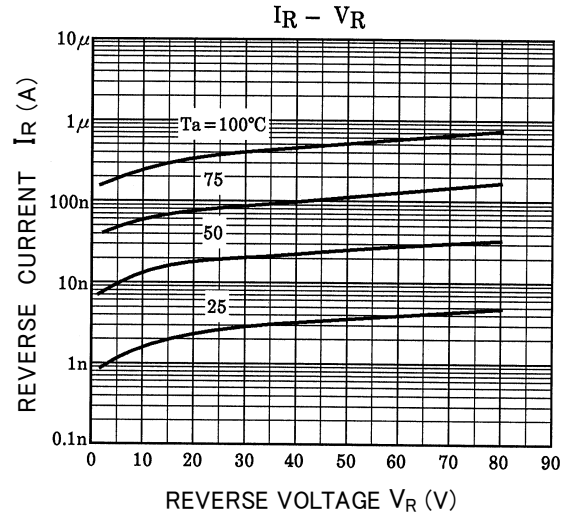
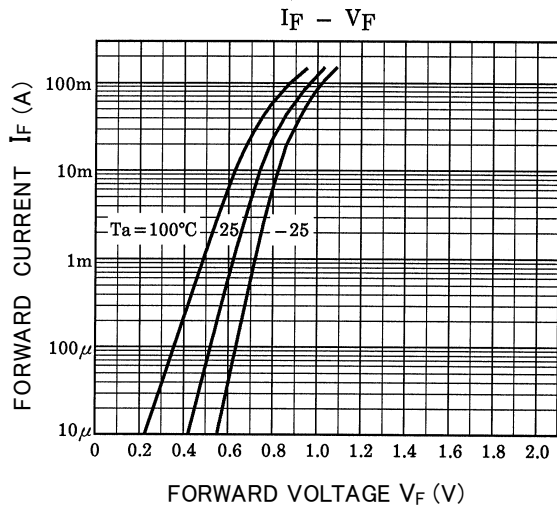


Marking



Equivalent Circuit (Top View)





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