TOSHIBA Diode Silicon Epitaxial Planar Type

1SS272

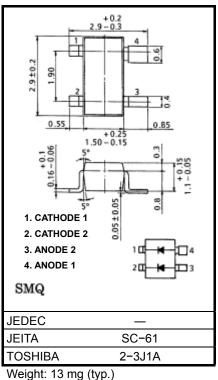
Ultra High Speed Switching Application

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- Low forward voltage $: V_{F(3)} = 0.92V (typ.)$
- Fast reverse recovery time: t_{rr} = 1.6ns (typ.)
- Small total capacitance $: C_T = 0.9 pF (typ.)$

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 | Ι _Ο | 100 * | mA | |
| Surge current (10ms) | I _{FSM} | 2 * | А | |
| Power dissipation | Р | 150 * | mW | |
| Junction temperature | Tj | 125 | °C | |
| Storage temperature range | T _{stg} | -55 to 125 | °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 × 1.5.

| Characteristic | Symbol | Test Condition | Min | Тур. | Max | Unit |
|-----------------------|--------------------|--|-----|------|-----|------|
| Forward voltage | V _{F (1)} | I _F = 1mA | | 0.61 | _ | V |
| | V _{F (2)} | I _F = 10mA | _ | 0.74 | _ | |
| | V _{F (3)} | I _F = 100mA | | 0.92 | 1.2 | |
| Reverse current | I _{R (1)} | V _R = 30V | | | 0.1 | μΑ |
| | I _{R (2)} | V _R = 80V | _ | | 0.5 | |
| Total capacitance | CT | V _R = 0, f = 1MH _z | | 0.9 | 2.0 | pF |
| Reverse recovery time | t _{rr} | I _F = 10mA, Fig.1 | _ | 1.6 | 4.0 | ns |

Electrical Characteristics (Ta = 25°C)

Unit: mm

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Marking

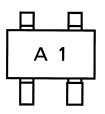
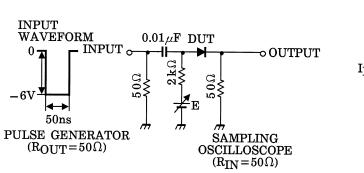
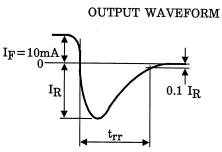
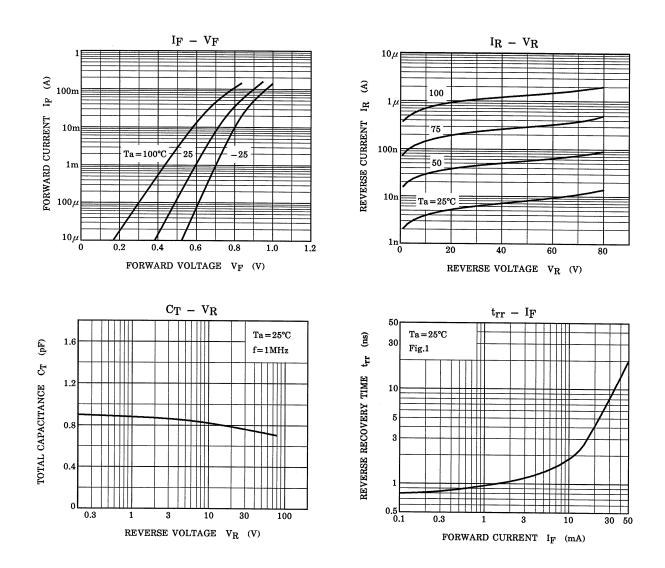


Fig.1 Reverse recovery time (t_{rr}) test circuit





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