

TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

## 1SS401

### High Speed Switching Applications

- Low forward voltage :  $V_F(3) = 0.38 \text{ V (typ.)}$
- Low reverse current :  $I_R = 50 \mu\text{A (max)}$
- Small total capacitance :  $C_T = 46 \text{ pF (typ.)}$

### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

| Characteristic                 | Symbol    | Rating     | Unit             |
|--------------------------------|-----------|------------|------------------|
| Maximum (peak) reverse voltage | $V_{RM}$  | 25         | V                |
| Reverse voltage                | $V_R$     | 20         | V                |
| Maximum (peak) forward current | $I_{FM}$  | 700        | mA               |
| Average forward current        | $I_O$     | 300        | mA               |
| Power dissipation              | P         | 100        | mW               |
| Junction temperature           | $T_j$     | 125        | $^\circ\text{C}$ |
| Storage temperature range      | $T_{stg}$ | -55 to 125 | $^\circ\text{C}$ |
| Operating temperature range    | $T_{opr}$ | -40 to 100 | $^\circ\text{C}$ |

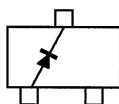
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.)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

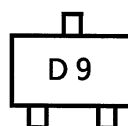
### Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

| Characteristic    | Symbol   | Test Circuit | Test Condition               | Min | Typ. | Max  | Unit          |
|-------------------|----------|--------------|------------------------------|-----|------|------|---------------|
| Forward voltage   | $V_F(1)$ | —            | $I_F = 1 \text{ mA}$         | —   | 0.16 | —    | V             |
|                   | $V_F(2)$ | —            | $I_F = 10 \text{ mA}$        | —   | 0.22 | —    |               |
|                   | $V_F(3)$ | —            | $I_F = 300 \text{ mA}$       | —   | 0.38 | 0.45 |               |
| Reverse current   | $I_R$    | —            | $V_R = 20 \text{ V}$         | —   | —    | 50   | $\mu\text{A}$ |
| Total capacitance | $C_T$    | —            | $V_R = 0, f = 1 \text{ MHz}$ | —   | 46   | —    | pF            |

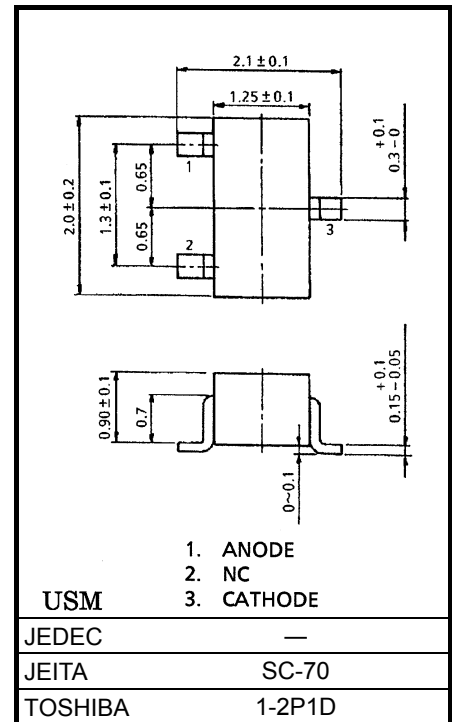
### Pin Assignment (Top View)



### Marking



Unit: mm



USM

JEDEC

JEITA

TOSHIBA

1. ANODE
2. NC
3. CATHODE

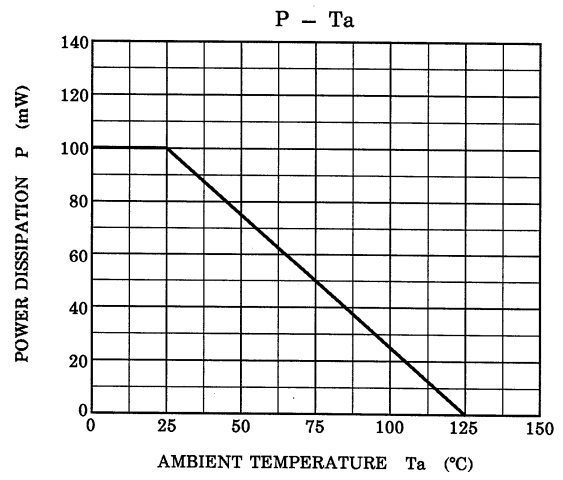
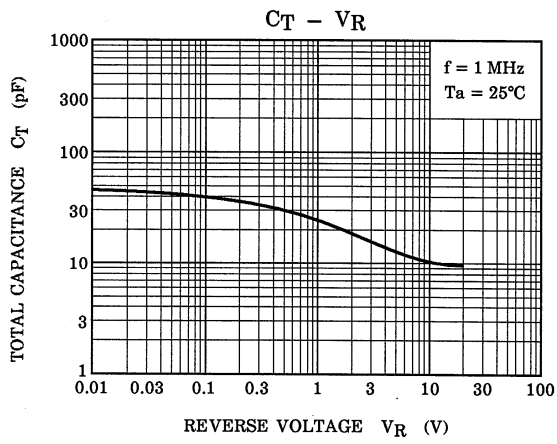
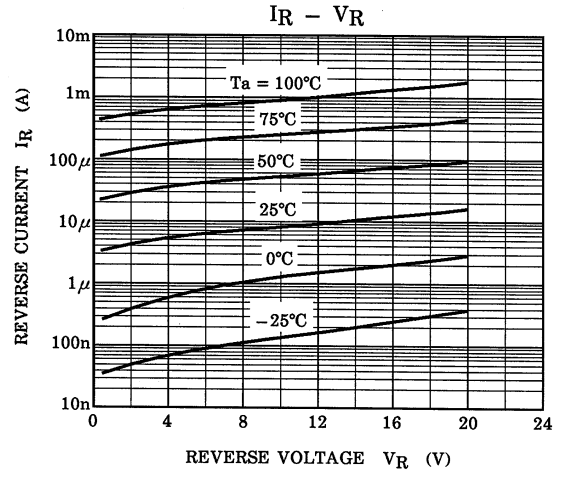
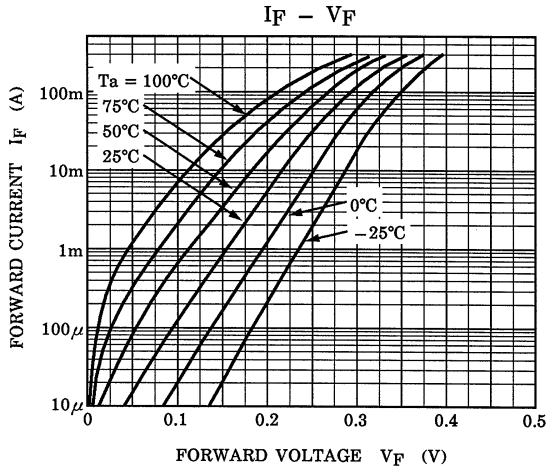
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SC-70

1-2P1D

Weigh: 0.006 g(typ.)

Start of commercial production  
1999-03



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