

TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

## HN2S03FU

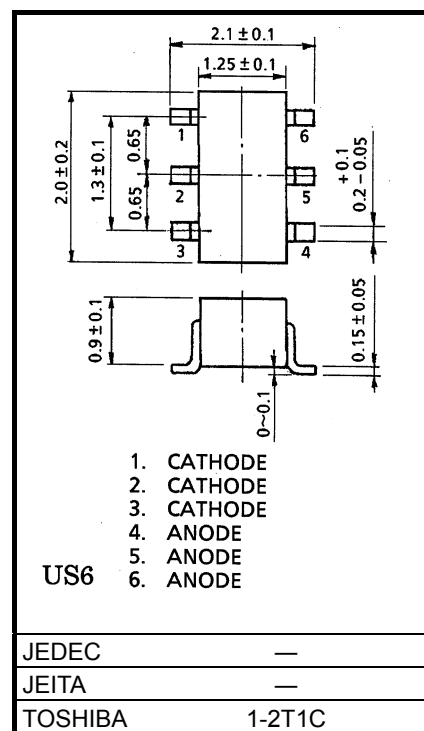
### High Speed Switching Application

Unit: mm

- HN2S03FU is composed of 3 independent diodes.
- Low forward voltage :  $V_F(3) = 0.50V$  (typ.)
- Low reverse current :  $I_R = 0.5\mu A$  (max)
- Small total capacitance :  $C_T = 3.9pF$  (typ.)

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

| Characteristic                 | Symbol    | Rating  | Unit       |
|--------------------------------|-----------|---------|------------|
| Maximum (peak) reverse Voltage | $V_{RM}$  | 25      | V          |
| Reverse voltage                | $V_R$     | 20      | V          |
| Maximum (peak) forward current | $I_{FM}$  | 100 *   | mA         |
| Average forward current        | $I_O$     | 50 *    | mA         |
| Surge current (10ms)           | $I_{FSM}$ | 1 *     | A          |
| Power dissipation              | P         | 200 **  | mW         |
| Junction temperature           | $T_j$     | 125     | $^\circ C$ |
| Storage temperature range      | $T_{stg}$ | -55~125 | $^\circ C$ |
| Operating temperature range    | $T_{opr}$ | -40~110 | $^\circ C$ |



|         |        |
|---------|--------|
| JEDEC   | —      |
| JEITA   | —      |
| TOSHIBA | 1-2T1C |

Weight: 6.2 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).

\* : This is absolute maximum rating of single diode (Q1 or Q2 or Q3).

In the case of using 2 or 3 diodes, the absolute maximum ratings per diodes is 75 % of the single diode one.

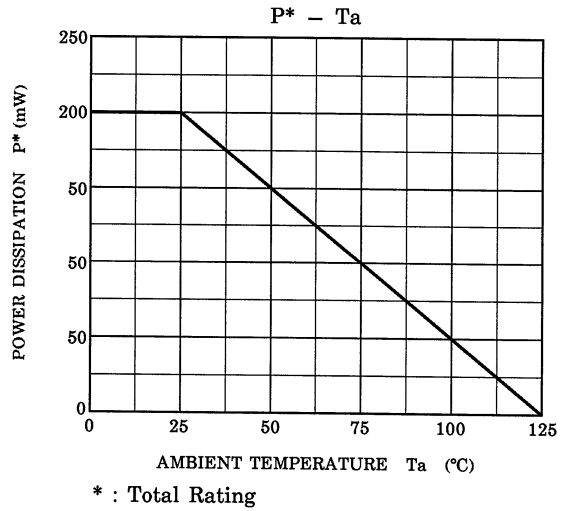
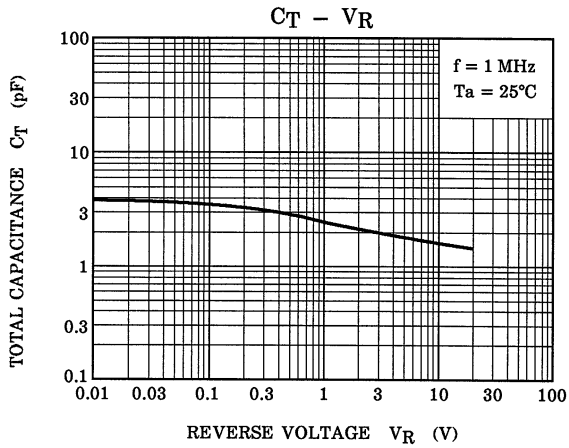
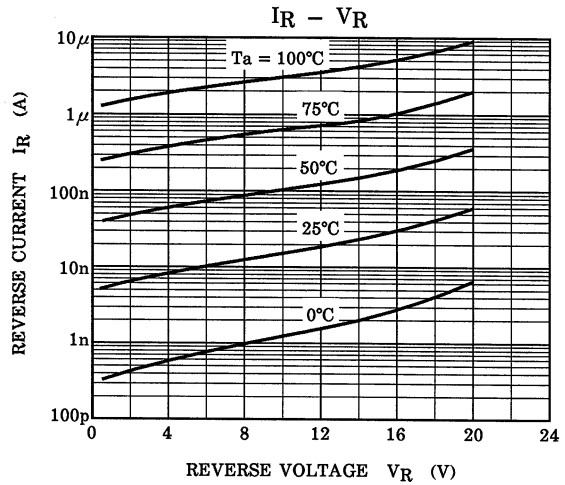
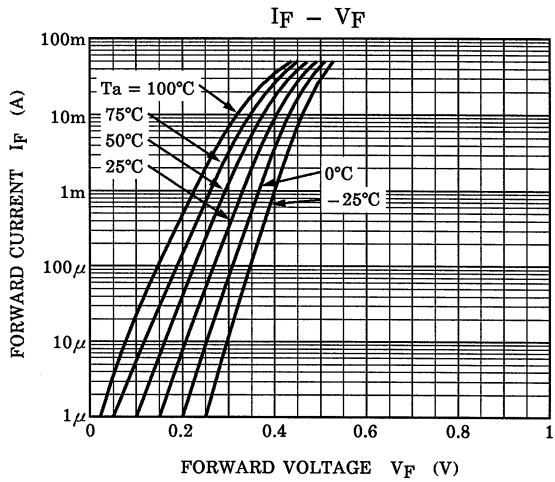
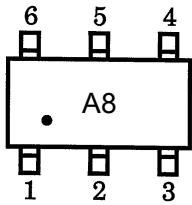
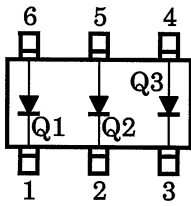
\*\* :Total rating

### Electrical Characteristics (Q1, Q2, Q3 Common, $T_a = 25^\circ C$ )

| Characteristic    | Symbol   | Test Circuit | Test Condition      | Min | Typ. | Max  | Unit    |
|-------------------|----------|--------------|---------------------|-----|------|------|---------|
| Forward voltage   | $V_F(1)$ | —            | $I_F = 1mA$         | —   | 0.33 | —    | V       |
|                   | $V_F(2)$ | —            | $I_F = 5mA$         | —   | 0.38 | —    |         |
|                   | $V_F(3)$ | —            | $I_F = 50mA$        | —   | 0.50 | 0.55 |         |
| Reverse current   | $I_R$    | —            | $V_R = 20V$         | —   | —    | 0.5  | $\mu A$ |
| Total capacitance | $C_T$    | —            | $V_R = 0, f = 1MHz$ | —   | 3.9  | —    | pF      |

Pin Assignment (Top View)

Marking



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