

TOSHIBA Diode Silicon Epitaxial Schottky Barrier Type

# HN2S02JE

## High-speed Switching Applications

- HN2S02JE is composed of two independent diodes.
- Low forward voltage:  $V_F(3) = 0.54V$  (typ.)
- Low reverse current:  $I_R = 5\mu A$  (max)

## Absolute Maximum Ratings (Ta = 25°C)

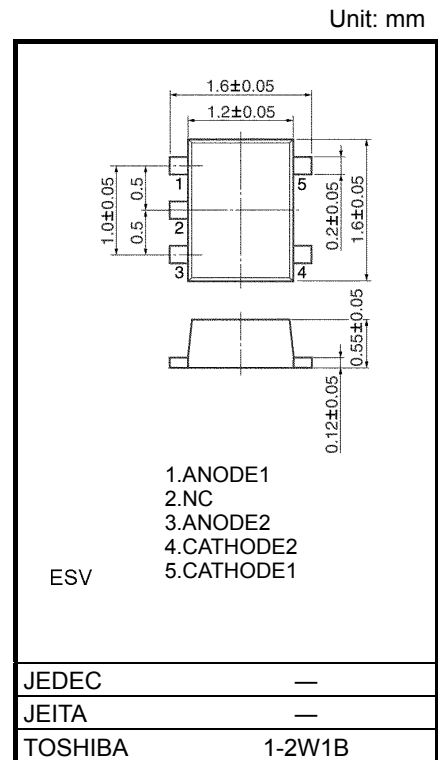
| Characteristic                 | Symbol    | Rating     | Unit |
|--------------------------------|-----------|------------|------|
| Maximum (peak) reverse Voltage | $V_{RM}$  | 45         | V    |
| Reverse voltage                | $V_R$     | 40         | V    |
| Maximum (peak) forward current | $I_{FM}$  | 300 *      | mA   |
| Average forward current        | $I_O$     | 100 *      | mA   |
| Surge current (10ms)           | $I_{FSM}$ | 1 *        | A    |
| Power dissipation              | P         | 100 **     | mW   |
| Junction temperature           | $T_j$     | 125        | °C   |
| Storage temperature range      | $T_{stg}$ | -55 to 125 | °C   |
| Operating temperature range    | $T_{opr}$ | -40 to 100 | °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)

\*\* :Total rating

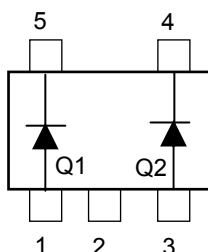


Weight: 0.003g (typ.)

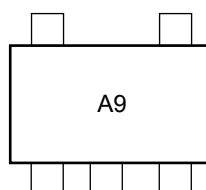
## Electrical Characteristics (Q1, Q2, Q3 Common, Ta = 25°C)

| Characteristic    | Symbol   | Test Circuit | Test Condition      | Min | Typ. | Max  | Unit    |
|-------------------|----------|--------------|---------------------|-----|------|------|---------|
| Forward voltage   | $V_F(1)$ | —            | $I_F = 1mA$         | —   | 0.28 | —    | V       |
|                   | $V_F(2)$ | —            | $I_F = 10mA$        | —   | 0.36 | —    |         |
|                   | $V_F(3)$ | —            | $I_F = 100mA$       | —   | 0.54 | 0.60 |         |
| Reverse current   | $I_R$    | —            | $V_R = 40V$         | —   | —    | 5    | $\mu A$ |
| Total capacitance | $C_T$    | —            | $V_R = 0, f = 1MHz$ | —   | 18   | —    | pF      |

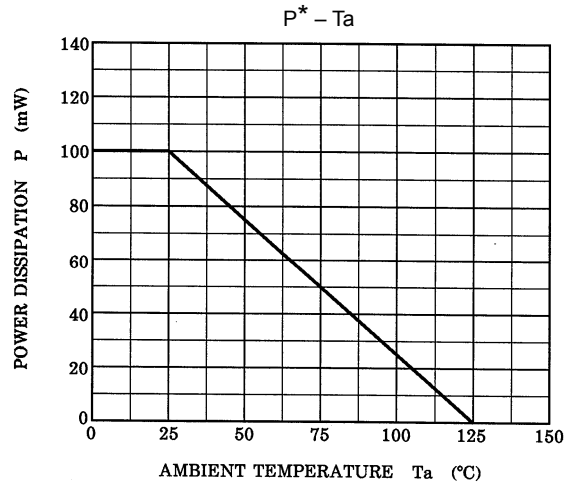
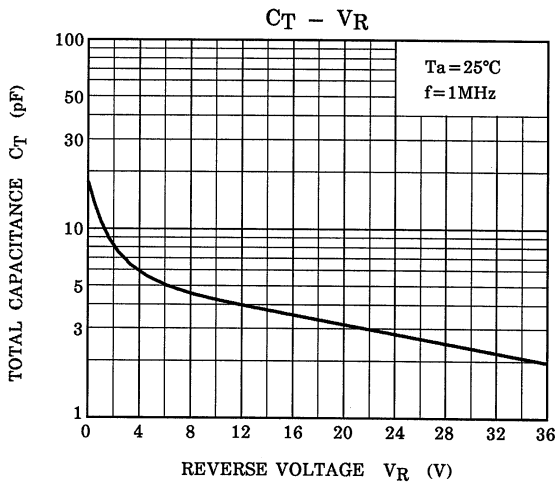
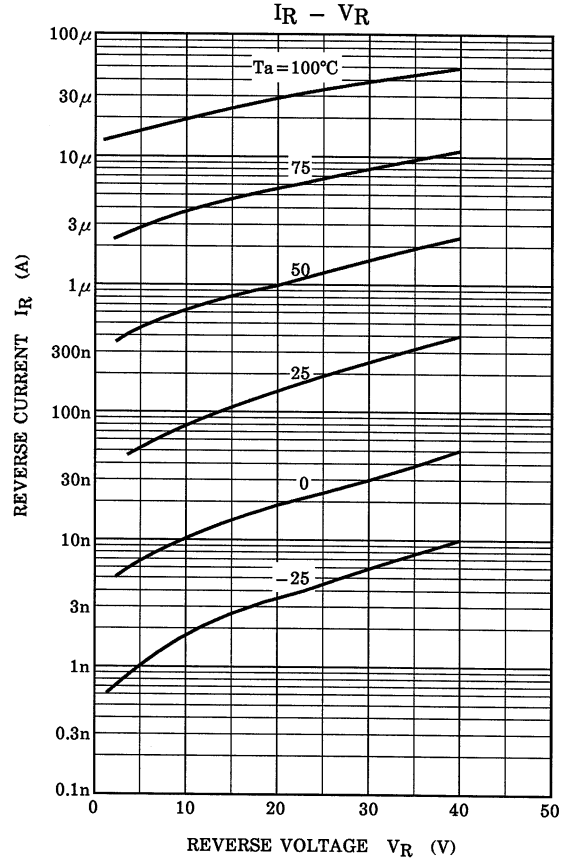
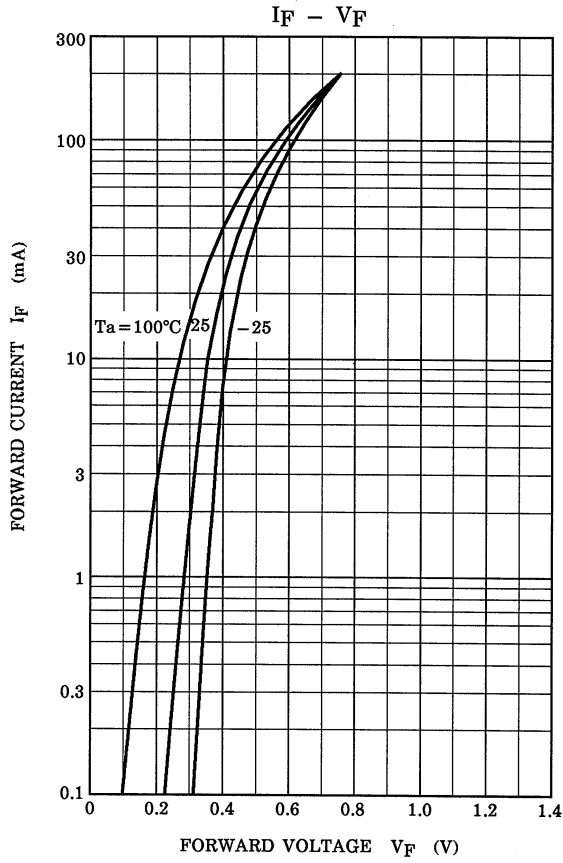
## Pin Assignment (Top View)



## Marking



Start of commercial production  
2002-06



\*: Total Rating

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