

**SB05-05NP**

Shottky Barrier Diode

**50V, 500mA Rectifier**

## Applications

- High frequency rectification (switching regulators, converters, choppers).

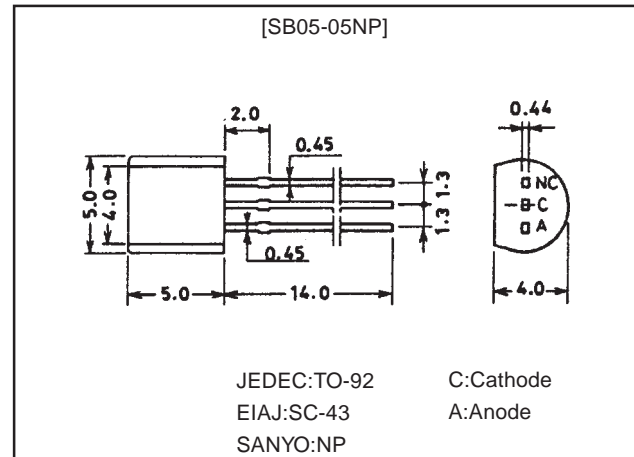
## Features

- Low forward voltage ( $V_F$  max=0.55V).
- Fast reverse recovery time ( $t_{rr}$  max=10ns).
- Low switching noise.
- Low leakage current and high reliability due to highly reliable planar structure.

## Package Dimensions

unit:mm

1157



## Specifications

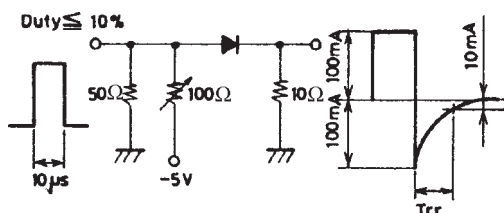
### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

| Parameter                                | Symbol    | Conditions                                   | Ratings     | Unit             |
|--|-----------|--|-------------|------------------|
| Repetitive Peak Reverse Voltage          | $V_{RRM}$ |  | -50         | V                |
| Nonrepetitive Peak Reverse Surge Voltage | $V_{RSM}$ |  | -55         | V                |
| Average Output Current                   | $I_O$     | 50Hz, resistive load, $T_a=53^\circ\text{C}$ | 500         | mA               |
| Surge Forward Current                    | $I_{FSM}$ | 50Hz sine wave, 1cycle                       | 5           | A                |
| Junction Temperature                     | $T_j$     |  | -55 to +125 | $^\circ\text{C}$ |
| Storage Temperature                      | $T_{stg}$ |  | -55 to +125 | $^\circ\text{C}$ |

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

| Parameter                 | Symbol      | Conditions  | Ratings |     |      | Unit               |
|---------------------------|-------------|---|---------|-----|------|--------------------|
|                           |             |   | min     | typ | max  |                    |
| Reverse Voltage           | $V_R$       | $I_R=-200\mu\text{A}$                               | -50     |     |      | V                  |
| Forward Voltage           | $V_F$       | $I_F=500\text{mA}$                                  |         |     | 0.55 | V                  |
| Reverse Current           | $I_R$       | $V_R=-25\text{V}$                                   |         |     | -50  | $\mu\text{A}$      |
| Interterminal Capacitance | C           | $V_R=-10\text{V}$ , $f=1\text{MHz}$                 |         | 18  |      | pF                 |
| Reverse Recovery Time     | $t_{rr}$    | $I_F=I_R=100\text{mA}$ , See specified Test Circuit |         |     | 10   | ns                 |
| Thermal Resistance        | $R_{thj-a}$ |   |         | 165 |      | $^\circ\text{C/W}$ |

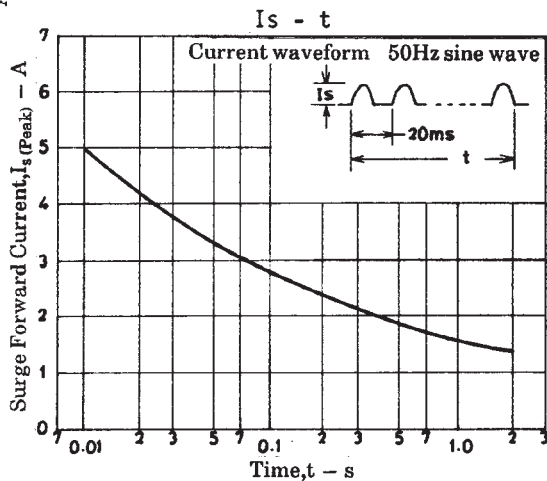
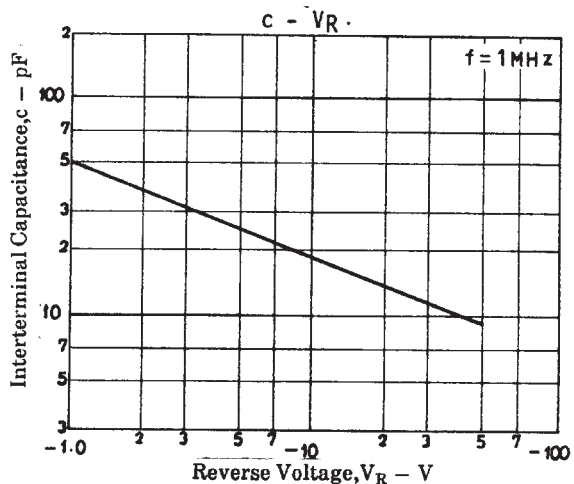
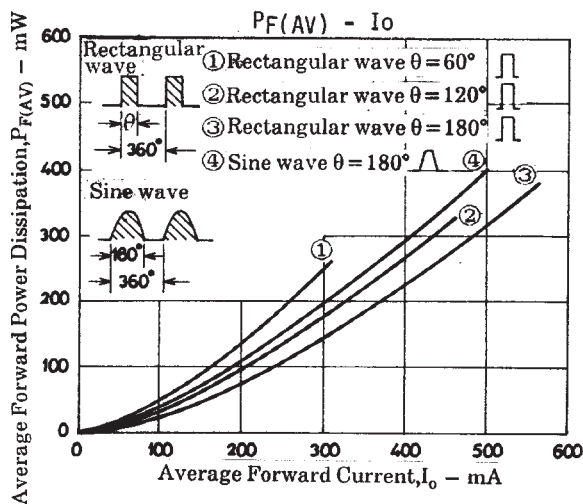
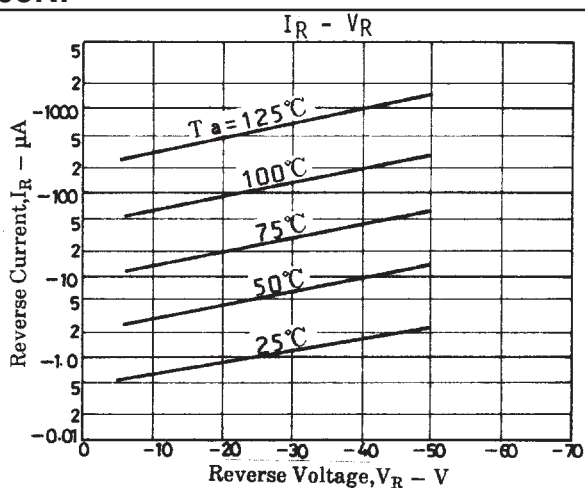
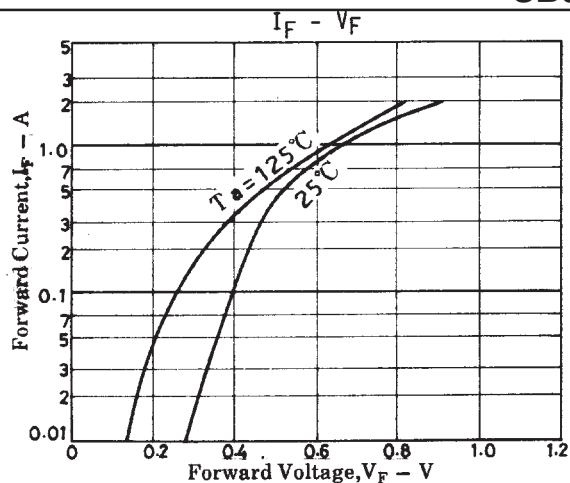
### $t_{rr}$ Test Circuit



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