



# SANYO Semiconductors

## DATA SHEET

### SB05-05C — Schottky 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.

#### 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                   | $I_O$     |                         | 500         | mA               |
| Surge Forward Current                    | $I_{FSM}$ | 50Hz sine wave, 1 cycle | 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           | $V_R$     | $I_R=200\mu\text{A}$ , $T_J=25^\circ\text{C}$                                 | 50      |     |      | V                           |
| Forward Voltage           | $V_F$     | $I_F=500\text{mA}$ , $T_J=25^\circ\text{C}$                                   |         |     | 0.55 | V                           |
| Reverse Current           | $I_R$     | $V_R=25\text{V}$ , $T_J=25^\circ\text{C}$                                     |         |     | 50   | $\mu\text{A}$               |
| Interterminal Capacitance | $C$       | $V_R=10\text{V}$ , $f=1\text{MHz}$  |         | 17  |      | pF                          |
| Reverse Recovery Time     | $t_{rr}$  | $I_F=I_R=100\text{mA}$ , $T_J=25^\circ\text{C}$ , See specified Test Circuit. |         |     | 10   | ns                          |
| Thermal Resistance        | Rthj-a(1) |   |         | 420 |      | $^\circ\text{C} / \text{W}$ |
|                           | Rthj-a(2) | Mounted in Cu-foiled area of 16mm <sup>2</sup> X0.2mm on glass epoxy board    |         | 330 |      | $^\circ\text{C} / \text{W}$ |

Marking : B

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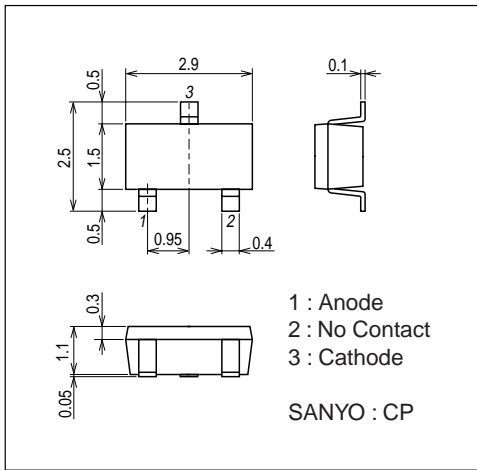
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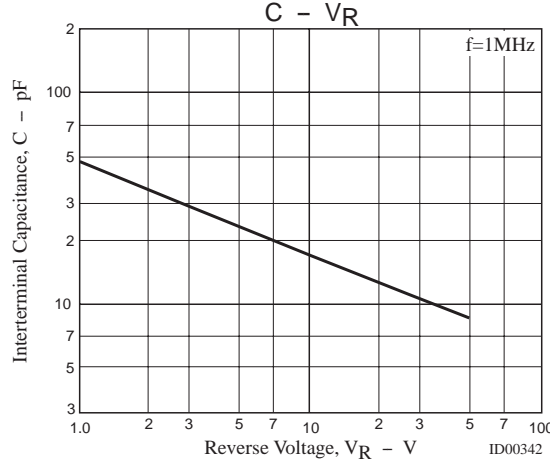
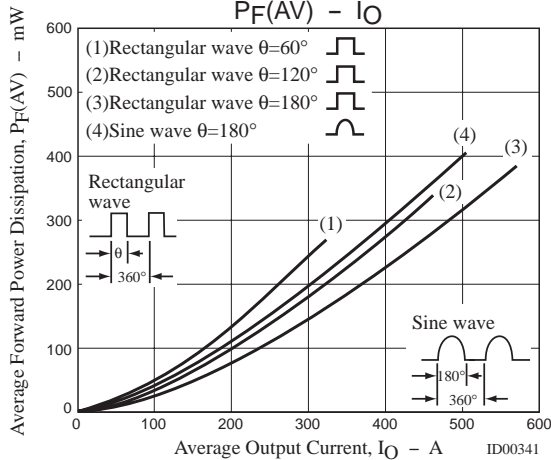
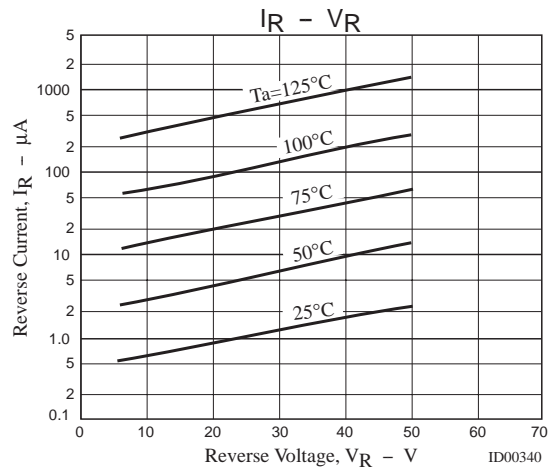
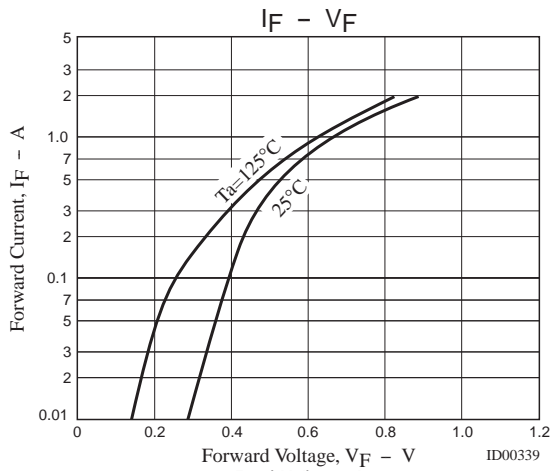
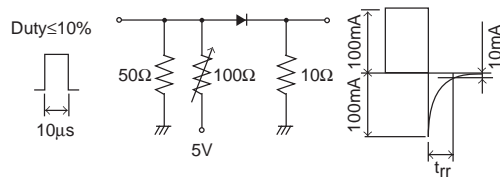
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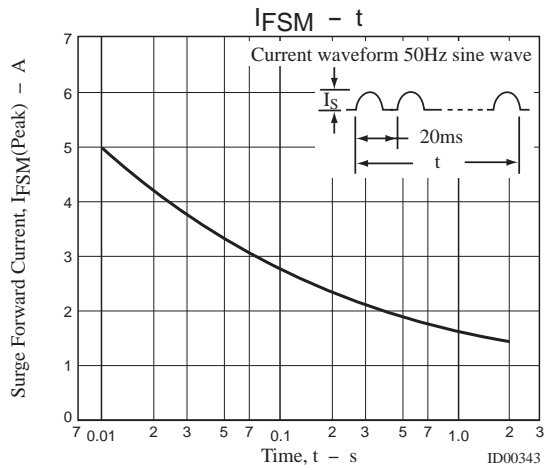
## Package Dimensions

unit : mm  
7013A-004



## t<sub>rr</sub> Test Circuit





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