



# SB10W05T

Schottky Barrier Diode (Twin Type · Cathode Common)

## 50V, 1A Rectifier

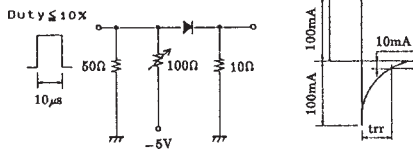
### Applications

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

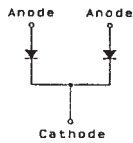
### Features

- 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.

### $t_{rr}$ Test Circuit



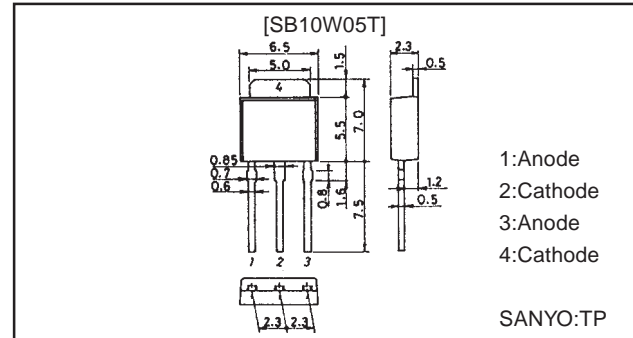
### Electrical Connection



### Package Dimensions

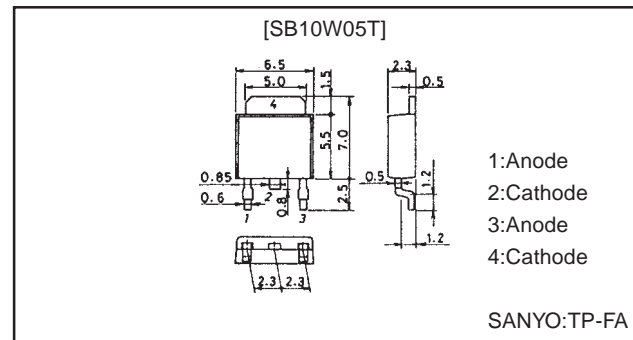
unit:mm

1254A



unit:mm

1257A



### Specifications

Absolute Maximum Ratings at  $T_a = 25^\circ\text{C}$  (Value per element)

| 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, resistor load, $T_c=120^\circ\text{C}$                | 1           | A                |
|  | $I_O$     | 50Hz, resistor load, $T_c=116^\circ\text{C}$ , Total rating | 2           | A                |
| Surge Forward Current                    | $I_{FSM}$ | 50Hz sine wave, 1 cycle                                     | 10          | A                |
| Junction Temperature                     | $T_j$     |   | -55 to +125 | $^\circ\text{C}$ |
| Storage Temperature                      | $T_{stg}$ |   | -55 to +125 | $^\circ\text{C}$ |

Electrical Characteristics at  $T_a = 25^\circ\text{C}$  (Value per element)

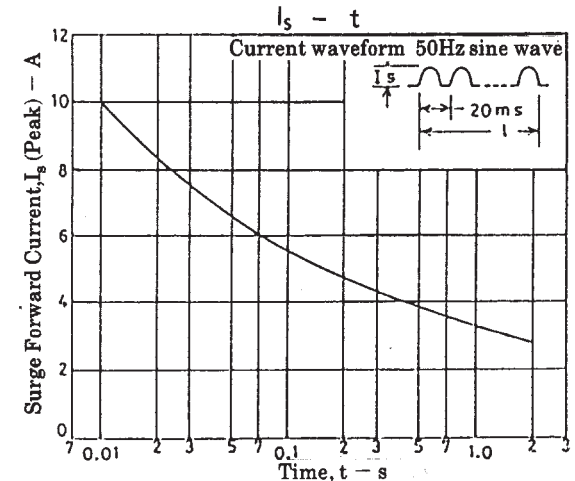
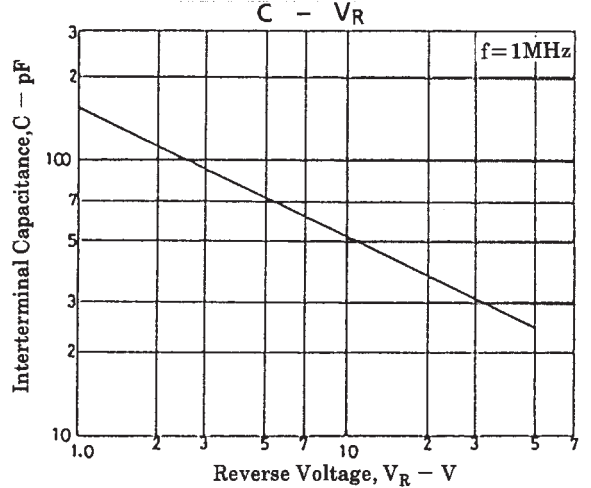
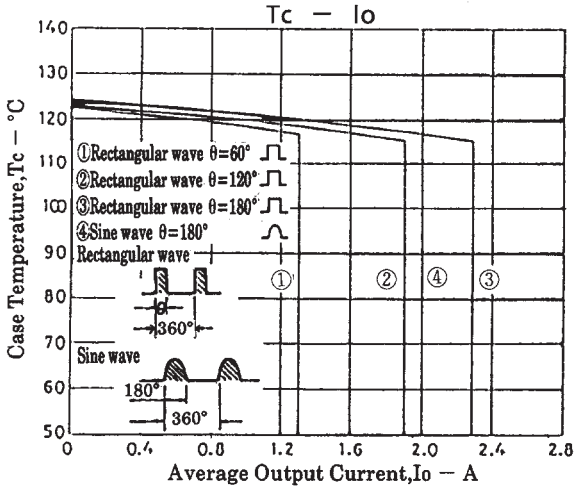
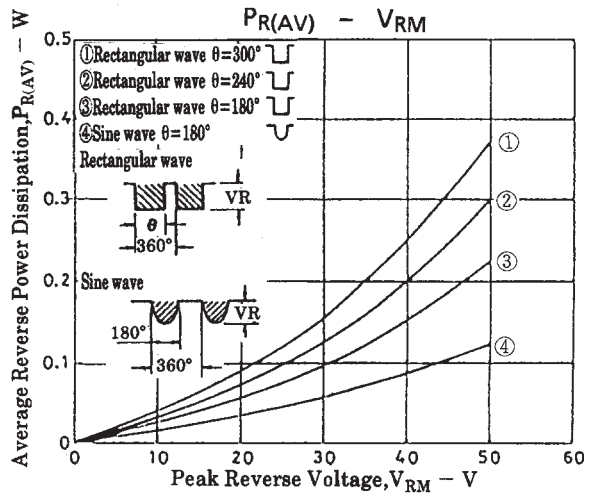
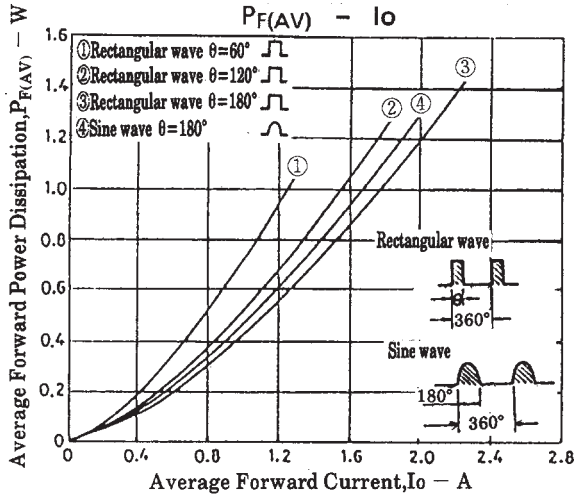
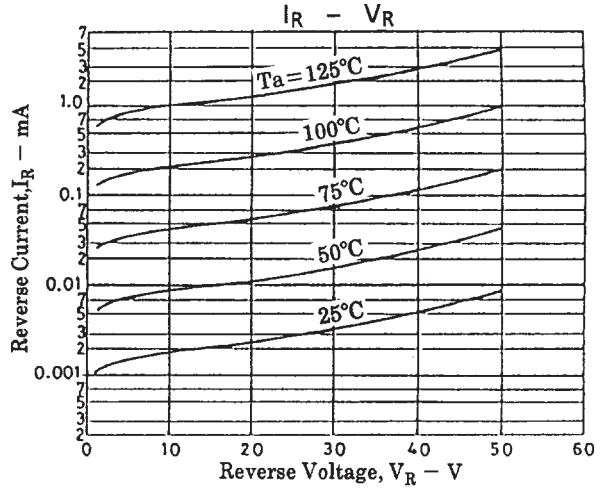
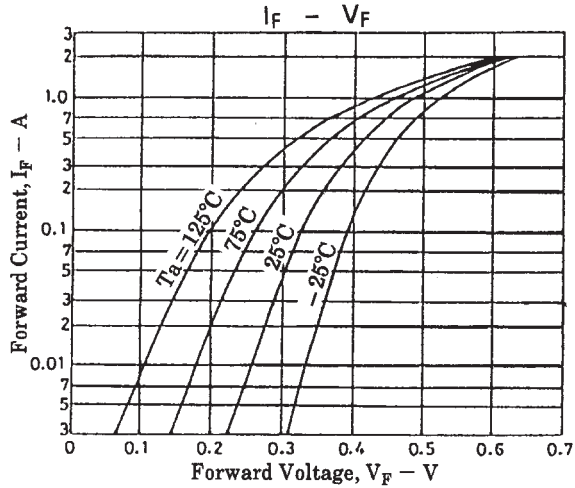
| Parameter                             | Symbol        | Conditions   | Ratings |     |      | Unit               |
|---------------------------------------|---------------|--|---------|-----|------|--------------------|
|                                       |               |  | min     | typ | max  |                    |
| Reverse Voltage                       | $V_R$         | $I_R=300\mu\text{A}$                                 | 50      |     |      | V                  |
| Forward Voltage                       | $V_F$         | $I_F=1\text{A}$                                      |         |     | 0.55 | V                  |
| Reverse Current                       | $I_R$         | $V_R=25\text{V}$                                     |         |     | 80   | $\mu\text{A}$      |
| Interterminal Capacitance             | C             | $V_R=10\text{V}$ , $f=1\text{MHz}$                   |         | 52  |      | pF                 |
| Reverse Recovery Time                 | $t_{rr}$      | $I_F=I_R=100\text{mA}$ , See specified Test Circuit. |         |     | 10   | ns                 |
| Thermal Resistance (Junction-Ambient) | $R_{th(j-a)}$ |  |         | 90  |      | $^\circ\text{C/W}$ |
| Thermal Resistance (Junction-Case)    | $R_{th(j-c)}$ |  |         | 6   |      | $^\circ\text{C/W}$ |

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