# THE DATASHEET OF

# SB10-05A3-AT1

Ordering number:EN2931A

# SB10-05A2, SB10-05A3

**Schottky Barrier Diode**

## 50V, 1.0A Rectifier

## Applications

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

## Features

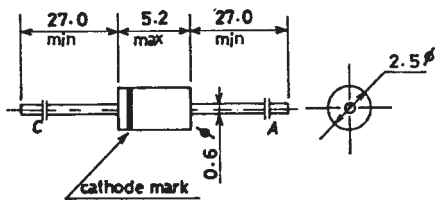
· Low forward voltage ($V_F$ max=0.58V).
· Fast reverse recovery time (trr max=30ns).
· Low switching noise.
· Average rectified current ($I_O$=1.0A).

## Package Dimensions

unit:mm

1208

[SB10-05A2]

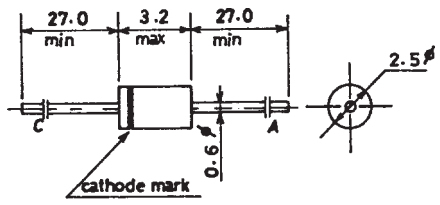



C:Cathode
A:Anode

unit:mm

1209

[SB10-05A3]




C:Cathode
A:Anode

## Specifications

### Absolute Maximum Ratings at Ta = 25˚C

| Parameter | Symbol | Conditions | | Ratings | Unit |
|---|---|---|---|---|---|
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | | | 50 | V |
| Nonrepetitive Peak Reverse Surge Voltage | $V_{RSM}$ | | | 55 | V |
| Average Rectified Current | $I_O$ | SB10-05A2 | 50Hz, resistive load, sine wave, Ta=33˚C (L=8mm, 10×10mm² print land) | 1.0 | A |
| | | SB10-05A3 | 50Hz, resistive load, sine wave, Ta=29˚C (L=3mm, 5×5mm² print land) | 1.0 | A |
| Surge Forward Current | $I_{FSM}$ | 50Hz sine wave, 1 cycle | | 25 | A |
| Junction Temperature | Tj | | | 125 | ˚C |
| Storage Temperature | Tstg | | | –40 to +125 | ˚C |

### Electrical Characteristics at Ta = 25˚C

| Parameter | Symbol | Conditons | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Forward Voltage | $V_F$ | $I_F$=1.0A | | | 0.58 | V |
| Reverse Current | $I_R$ | $V_R$=50V | | | 1.0 | mA |
| Reverse Recovery Time | trr | $I_{FM}$=1A, –d$I_F$/dt=50A/μs | | | 30 | ns |
| Thermal Resistance (Junction-Ambient) | Rth(j-a) | No fin, device only | | | 140 | ˚C/W |


**SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters**
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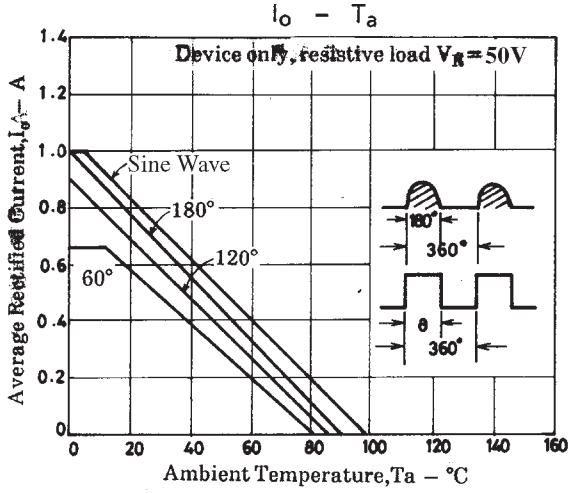
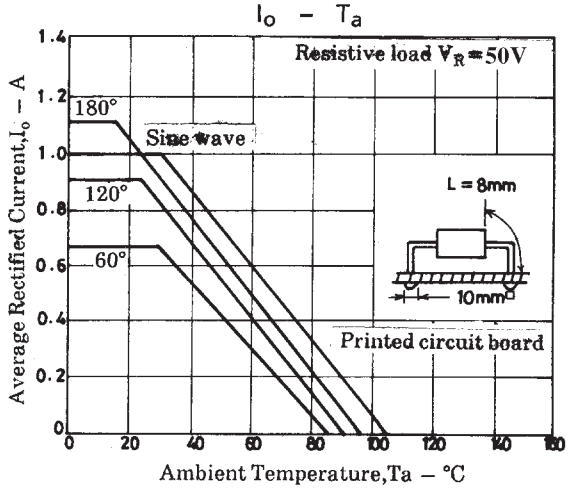
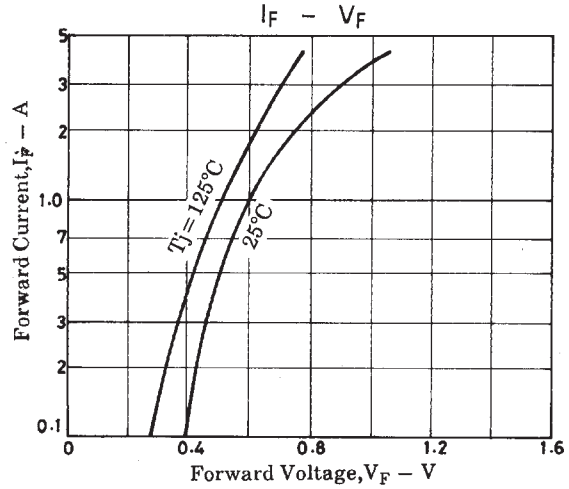
$I_O - T_a$



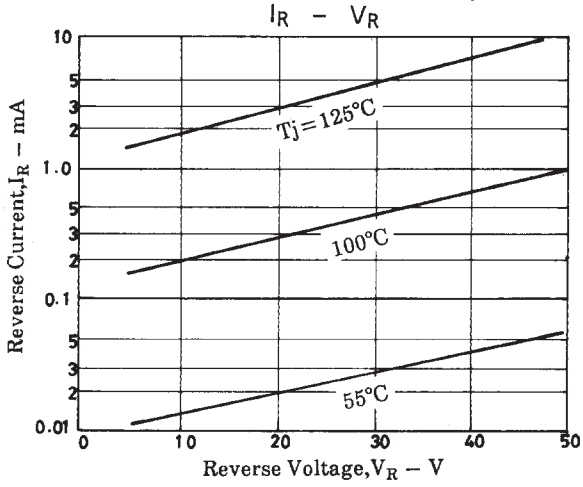

$I_O - T_a$



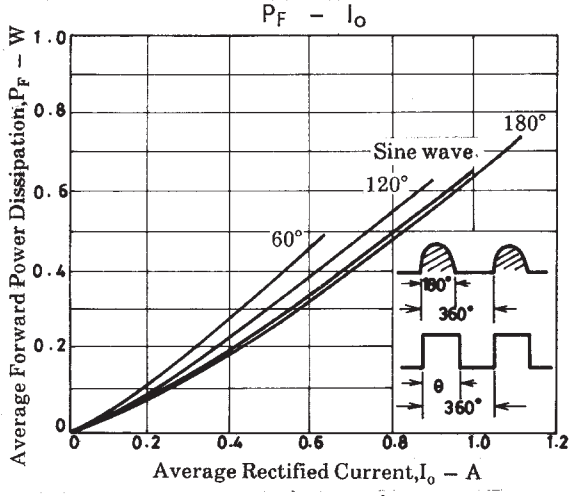

$I_F - V_F$



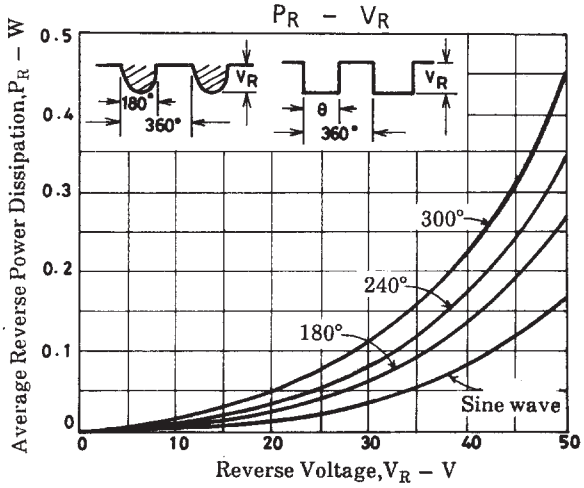

$I_R - V_R$



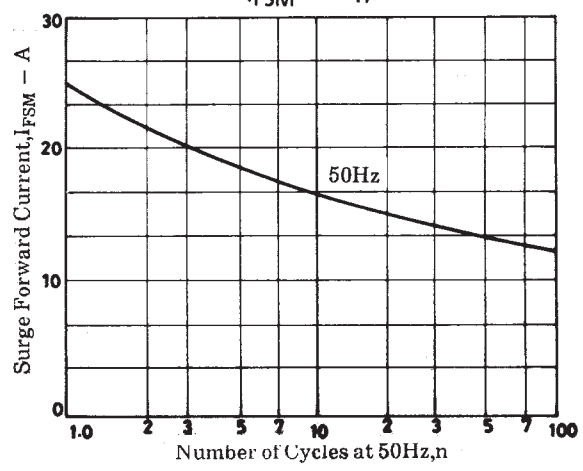

$P_F - I_O$



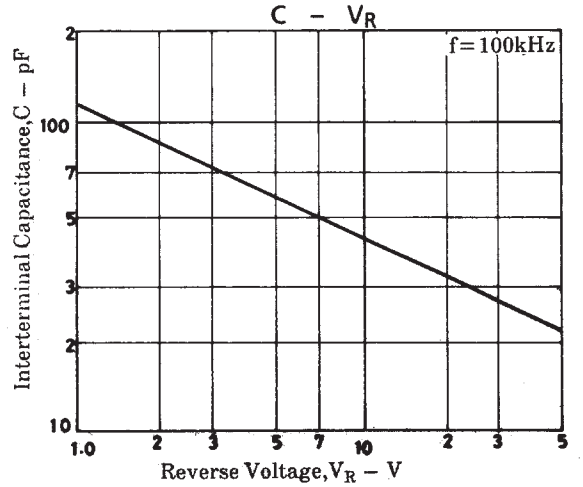

$P_R - V_R$




$I_{FSM} - n$




$C - V_R$



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