# SBS811

# Schottky Barrier Diode
# 30V, 2A, Low $V_F$, Non-Monolithic Dual VEC8 Common Cathode

ON Semiconductor®

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SBS811 is Schottky barrier diode, Low VF, Non-monolithic dual VEC8 common cathode for high frequency rectification applications.

### Features

- Small Switching Noise
- Low Forward Voltage ($I_F$=2A, $V_F$ max =0.40V)

### Typical Applications

- Switching Regulators
- Converters
- Choppers

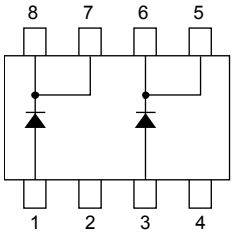
### SPECIFICATIONS

**ABSOLUTE MAXIMUM RATING** at Ta = 25°C (Note 1)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | 30 | V |
| Nonrepetitive Peak Reverse Surge Voltage | $V_{RSM}$ | 30 | V |
| Average Output Current | $I_O$ | 2.0 | A |
| Surge Forward Current<br>50Hz sine wave, 1 cycle | $I_{FSM}$ | 10 | A |
| Junction Temperature | Tj | −55 to +125 | °C |
| Storage Temperature | Tstg | −55 to +125 | °C |

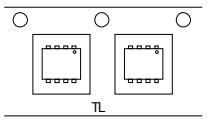
Note 1 : Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

### ELECTRICAL CONNECTION

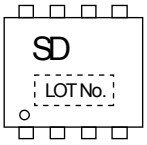



1 : Anode1
2 : No Contact
3 : Anode2
4 : No Contact
5 : Cathode2
6 : Cathode2
7 : Cathode1
8 : Cathode1

### PACKING TYPE : TL




### MARKING




### ORDERING INFORMATION

See detailed ordering and shipping information on page 4 of this data sheet.

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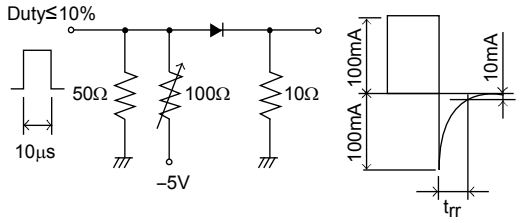
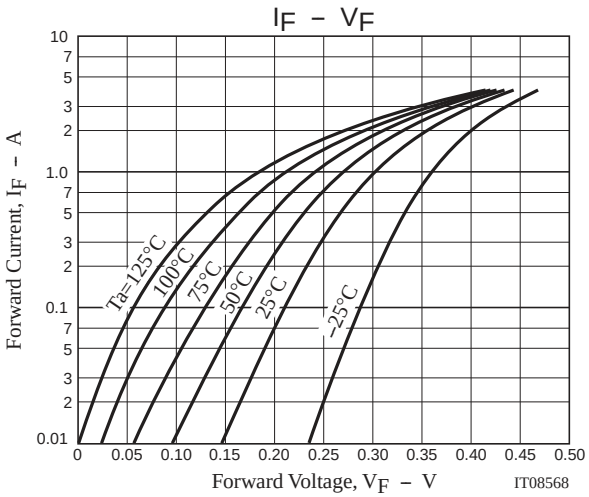
**ELECTRICAL CHARACTERISTICS** at Ta = 25°C (Note 2)

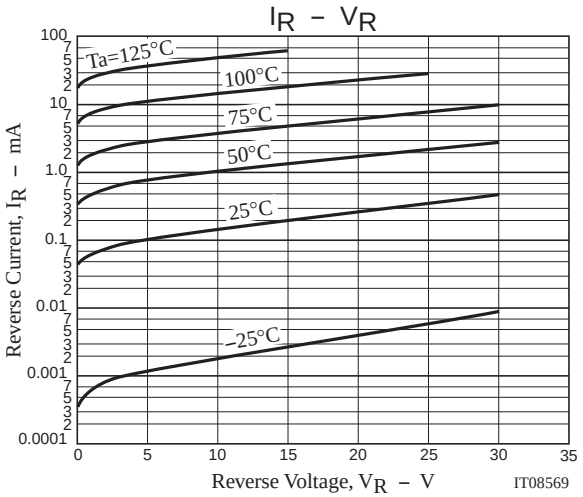
| Parameter | Symbol | Conditions | Value | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Reverse Voltage | $V_R$ | $I_R$=2.0mA | 30 | | | V |
| Forward Voltage | $V_F$ | $I_F$=1.0A | | 0.30 | 0.35 | V |
| | | $I_F$=2.0A | | 0.35 | 0.40 | V |
| Reverse Current | $I_R$ | $V_R$=15V | | | 1.25 | mA |
| Interterminal Capacitance | C | $V_R$=10V, f=1MHz | | 75 | | pF |
| Reverse Recovery Time | $t_{rr}$ | $I_F$= $I_R$=100mA, See specified Test Circuit | | | 20 | ns |
| Thermal Resistance | Rth(j-a)1 | When mounted in Cu-foiled area of 1.92mm$^2$ × 0.03mm on glass epoxy substrate | | 75 | | °C/W |
| | Rth(j-a)2 | When mounted on ceramic substrate (1000mm$^2$ × 0.8mm) | | 70 | | °C/W |

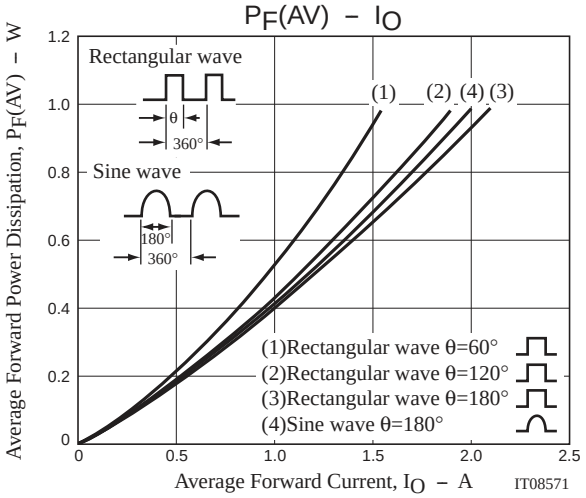
Note 2 : Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

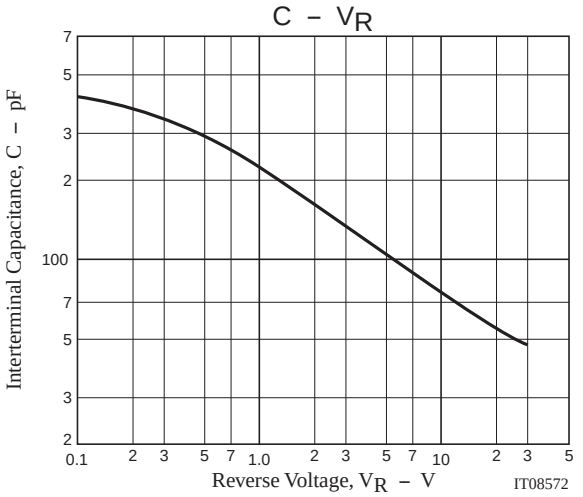
**Switching Time Test Circuit**

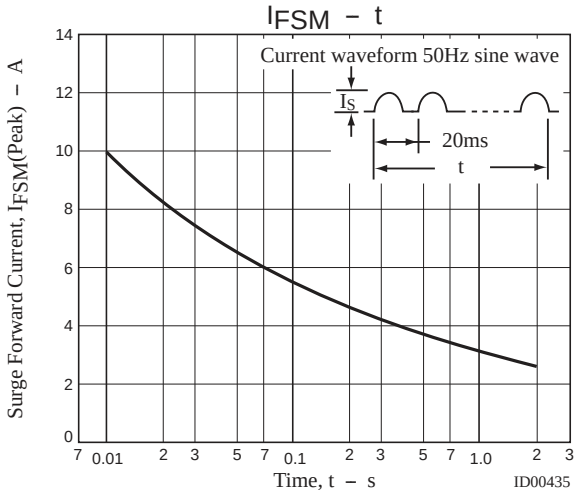



IF – VF
Forward Current, IF – A
Forward Voltage, VF – V
Ta=125°C
100°C
75°C
50°C
25°C
–25°C
IT08568


IR – VR
Reverse Current, IR – mA
Reverse Voltage, VR – V
Ta=125°C
100°C
75°C
50°C
25°C
–25°C
IT08569


PF(AV) – IO
Average Forward Power Dissipation, PF(AV) – W
Average Forward Current, IO – A
Rectangular wave
θ
360°
Sine wave
180°
360°
(1)
(2)
(4)
(3)
(1)Rectangular wave θ=60°
(2)Rectangular wave θ=120°
(3)Rectangular wave θ=180°
(4)Sine wave θ=180°
IT08571

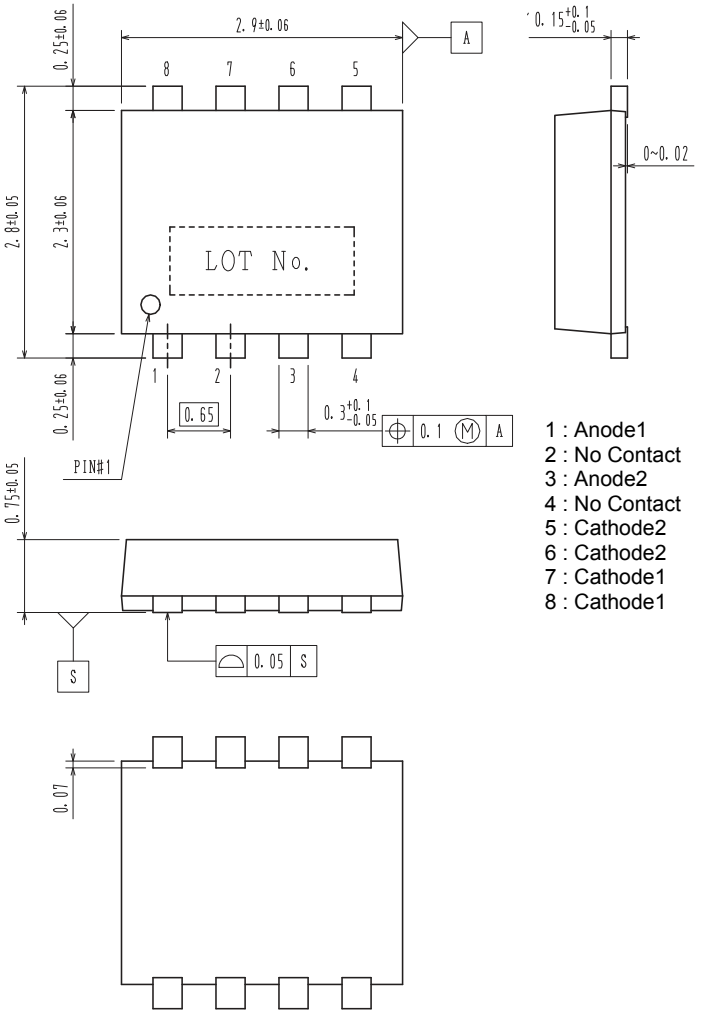

C – VR
Interterminal Capacitance, C – pF
Reverse Voltage, VR – V
IT08572


IFSM – t
Surge Forward Current, IFSM(Peak) – A
Time, t – s
Current waveform 50Hz sine wave
IS
20ms
t
ID00435

## PACKAGE DIMENSIONS

unit : mm

**SOT-28FL / VEC8**
CASE 318AH
ISSUE O




1 : Anode1
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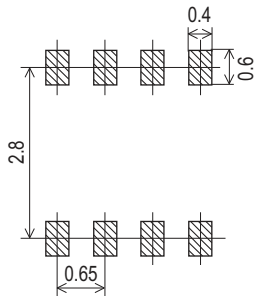
**Recommended Soldering Footprint**




## ORDERING INFORMATION

| Device | Marking | Package | Shipping (Qty / Packing) |
|---|---|---|---|
| SBS811-TL-E | SD | SOT-28FL / VEC8 (Pb-Free) | 3,000 / Tape & Reel |

† For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D. http://www.onsemi.com/pub_link/Collateral/BRD8011-D.PDF

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