Ordering number : EN8967A

# SBE813

## Schottky Barrier Diode

### 30V, 3A, Low $I_R$, Non-Monolithic Dual VEC8 Common Cathode

ON Semiconductor®

http://onsemi.com

## Applications

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

## Features

- Small switching noise
- Low leakage current and high reliability due to highly reliable planar structure
- Ultrasmall package permitting applied sets to be small and slim

## Specifications

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

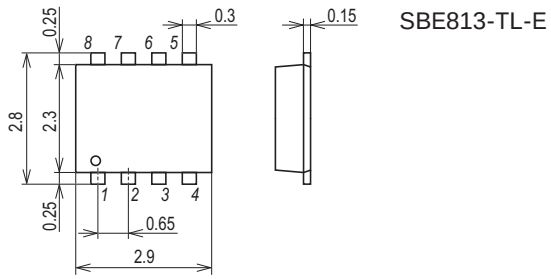
| Parameter | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | | 30 | V |
| Nonrepetitive Peak Reverse Surge Voltage | $V_{RSM}$ | | 35 | V |
| Average Output Current | $I_O$ | | 3.0 | A |
| Surge Forward Current | $I_{FSM}$ | 50Hz sine wave, 1 cycle | 20 | A |
| Junction Temperature | Tj | | −55 to +125 | °C |
| Storage Temperature | Tstg | | −55 to +125 | °C |

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

### Package Dimensions

unit : mm (typ)

7012-001




SBE813-TL-E

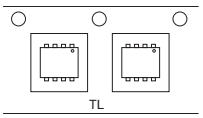
1 : Anode1
2 : No Contact
3 : Anode2
4 : No Contact
5 : Cathode2
6 : Cathode2
7 : Cathode1
8 : Cathode1

VEC8

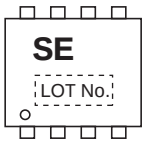
### Product & Package Information

- Package : VEC8
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

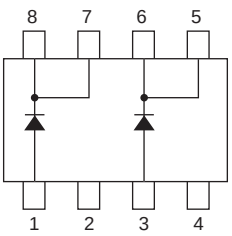
### Packing Type : TL




### Marking




### Electrical Connection







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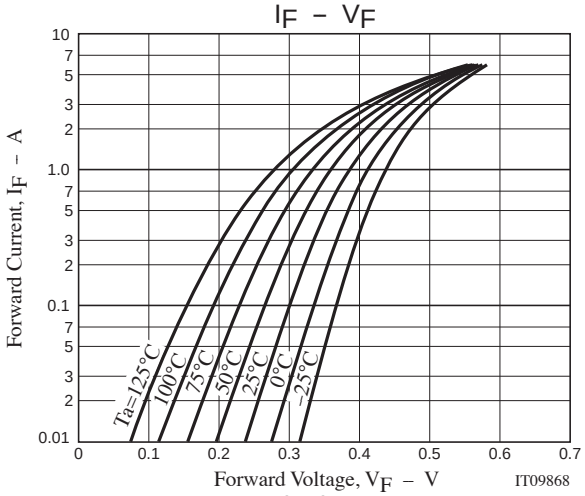
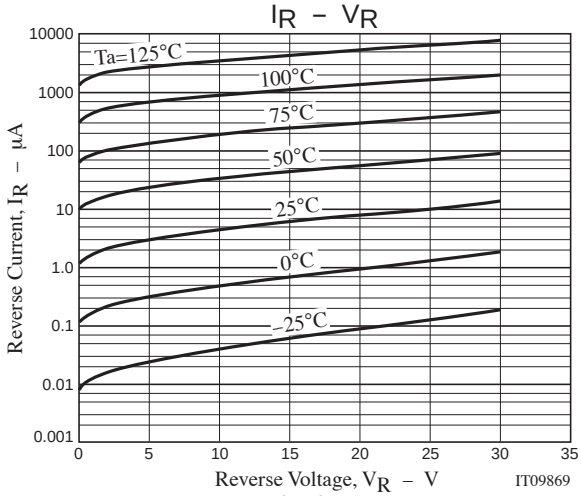
## Electrical Characteristics at Ta=25°C

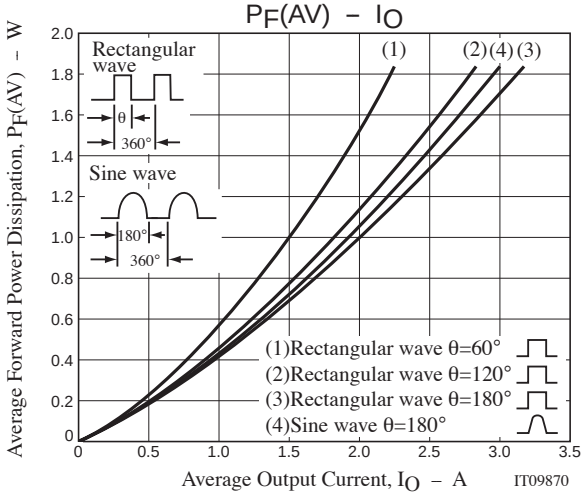
| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Reverse Voltage | $V_R$ | $I_R$=0.5mA | 30 | | | V |
| Forward Voltage | $V_F$1 | $I_F$=2.0A | | 0.435 | 0.485 | V |
| | $V_F$2 | $I_F$=3.0A | | 0.47 | 0.52 | V |
| Reverse Current | $I_R$ | $V_R$=15V | | | 42 | μA |
| Interterminal Capacitance | C | $V_R$=10V, f=1MHz | | 90 | | pF |
| Reverse Recovery Time | $t_{rr}$ | $I_F$=$I_R$=100mA, See specified Test Circuit. | | | 20 | ns |
| Thermal Resistance | Rth(j-a) | When mounted on ceramic substrate (1200mm²×0.8mm) | | 50 | | °C / W |

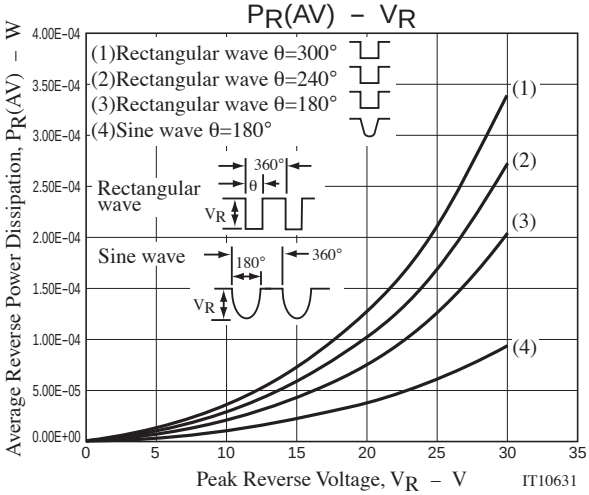
## Ordering Information

| Device | Package | Shipping | memo |
|---|---|---|---|
| SBE813-TL-E | VEC8 | 3,000pcs./reel | Pb Free |



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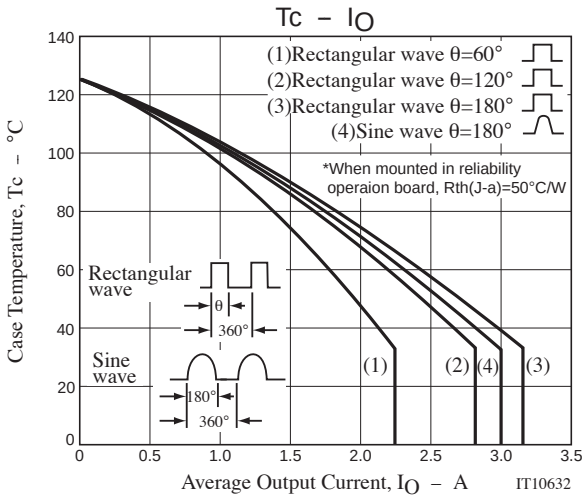


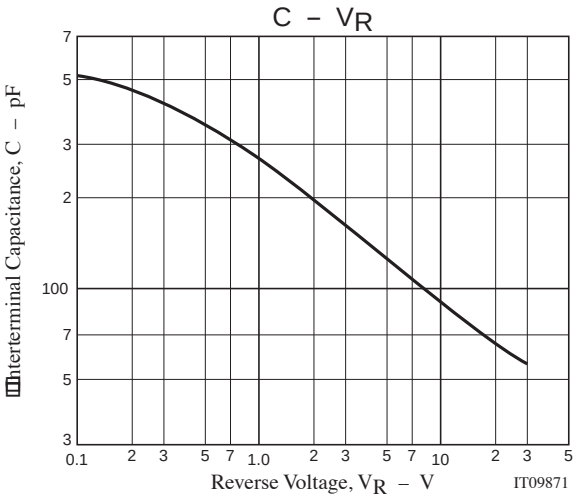


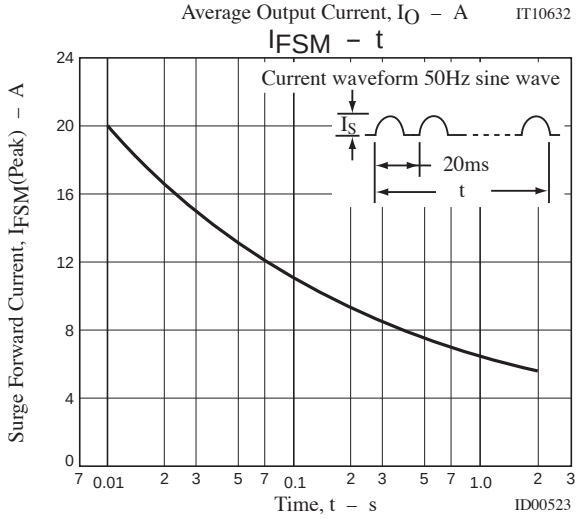




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## Taping Specification

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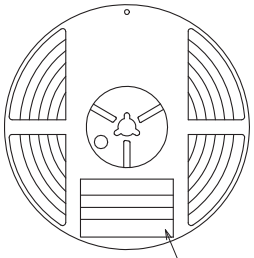
### 1. Packing Format

| Package Name | Carrier Tape Type | Maximum Number of devices contained (pcs) | | | Packing format | |
|---|---|---|---|---|---|---|
| | | Reel | Inner box | Outer box | Inner BOX (C-1) | Outer BOX (A-7) |
| VEC8 | CPH6 | 3,000 | 15,000 | 90,000 | 5 reels contained<br>Dimensions:mm (external)<br>183×72×185 | 6 inner boxes contained<br>Dimensions:mm (external)<br>440×195×210 |

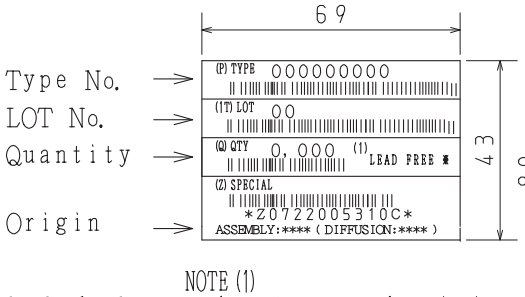
Packing method



Reel label

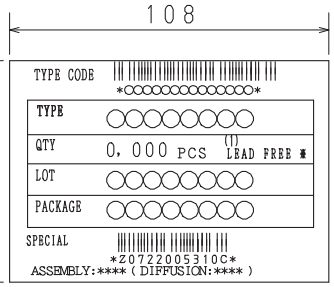
Reel label, Inner box label

(unit:mm)




Outer box label

It is a label at the time of factory shipments. The form of a label may change in physical distribution process.



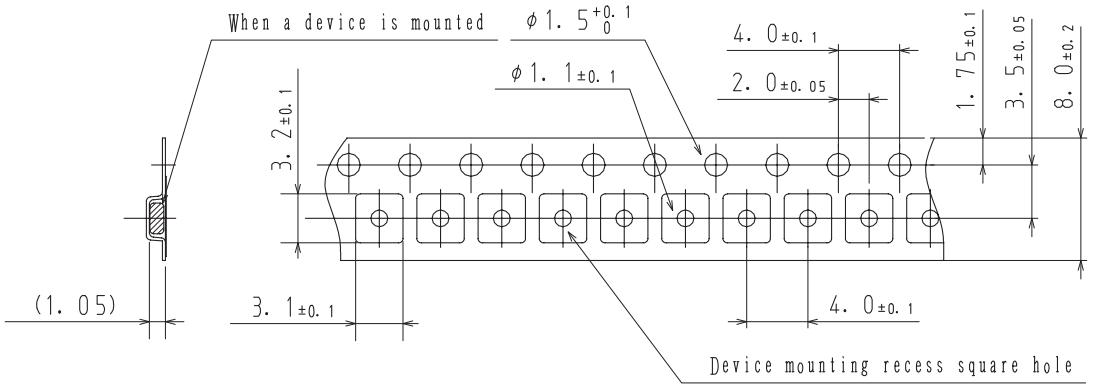

NOTE (1)

The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

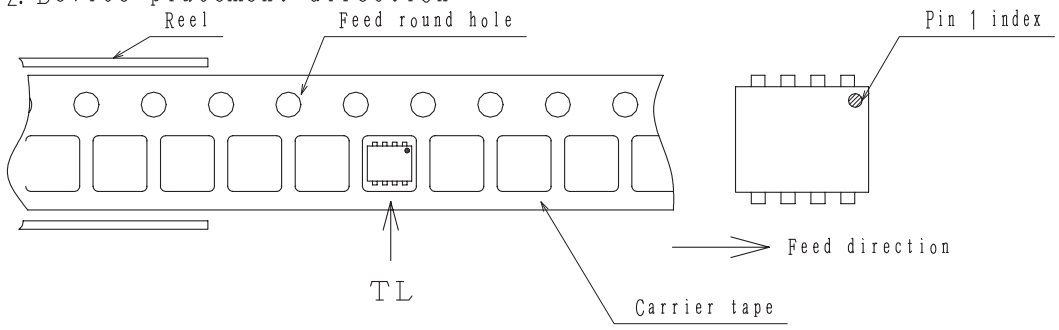
| Label | JEITA Phase |
|---|---|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3 |

### 2. Taping configuration

#### 2-1. Carrier tape size (unit:mm)




#### 2-2. Device placement direction




Those with oen electrode terminal on the feed hole side·····TL



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## Outline Drawing

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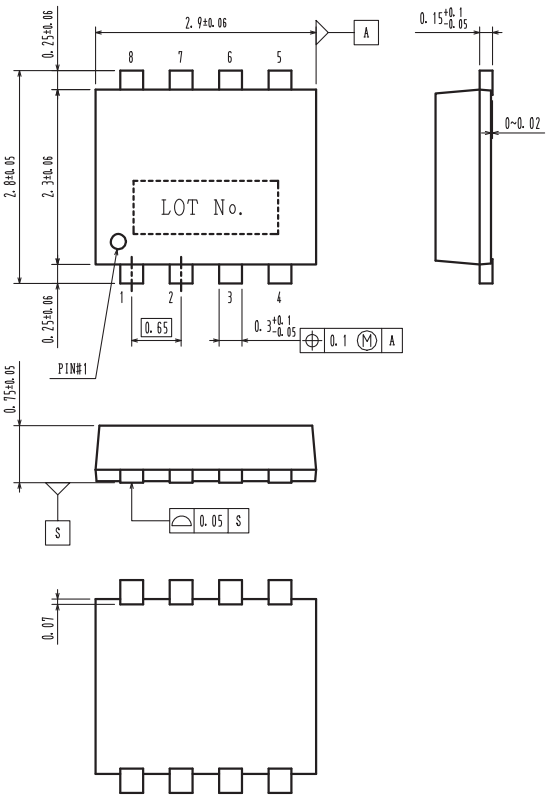
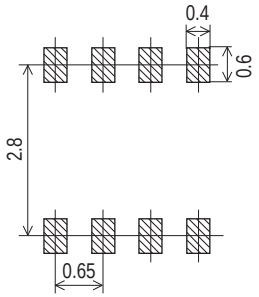
| Mass (g) | Unit |
|---|---|
| 0.015 * For reference | mm |




## Land Pattern Example

Unit: mm



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