



# SB05-03C

## Schottky Barrier Diode 30V, 0.5A, Low IR, Single CP

ON Semiconductor®

<http://onsemi.com>

### Applications

- Universal-use rectifier
- High frequency rectification (switching regulators, converters, choppers)

### Features

- Low forward voltage ( $V_F$  max=0.55V)
- Low switching noise
- Low leakage current and high reliability due to highly reliable planar structure
- Small-sized package, permitting applied sets to be compact and slim
- Fast reverse recovery time ( $t_{rr}$  max=10ns)

### Specifications

#### Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

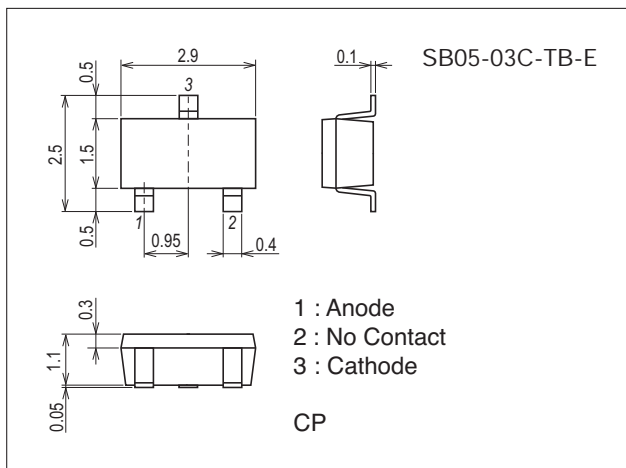
| Parameter                                | Symbol    | Conditions              | Ratings     | Unit             |
|--|-----------|-------------------------|-------------|------------------|
| Repetitive Peak Reverse Voltage          | $V_{RRM}$ |                         | 30          | V                |
| Nonrepetitive Peak Reverse Surge Voltage | $V_{RSM}$ |                         | 35          | V                |
| Average Output Current                   | $I_O$     |                         | 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 | $^\circ\text{C}$ |

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)

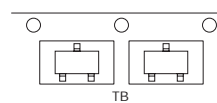
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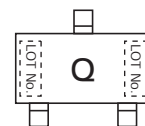
### Product & Package Information

- Package : CP
- JEITA, JEDEC : SC-59, TO-236, SOT-23, TO-236AB
- Minimum Packing Quantity : 3,000 pcs./reel

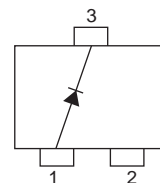
### Packing Type: TB



### Marking



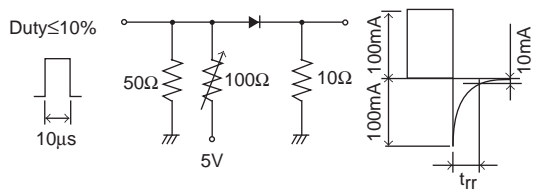
### Electrical Connection



Electrical Characteristics at Ta=25°C

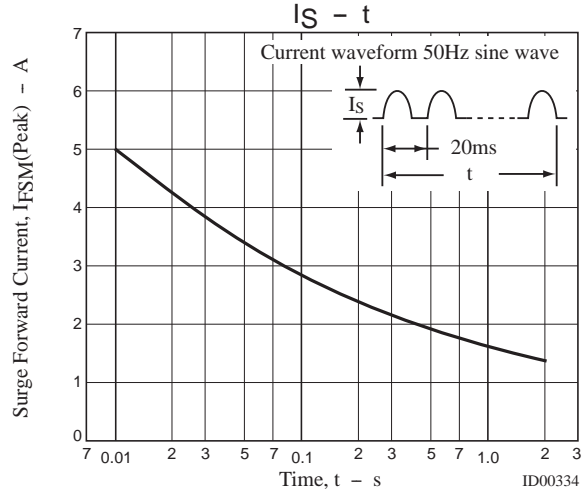
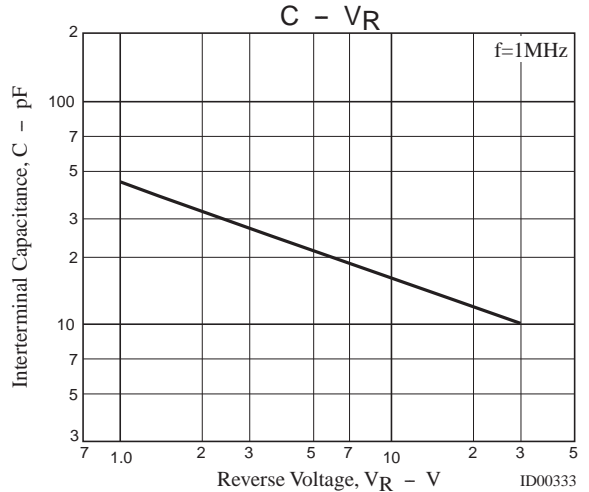
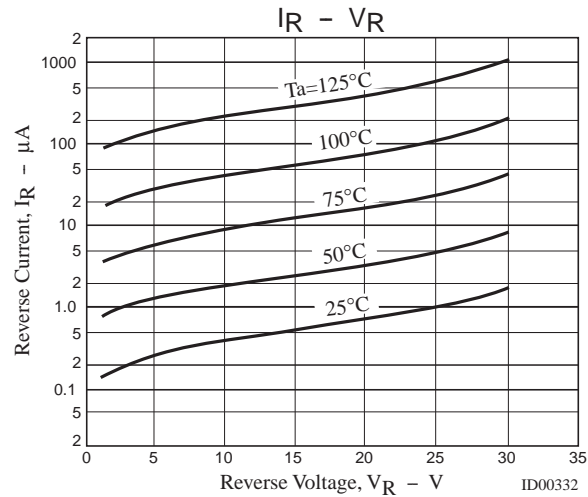
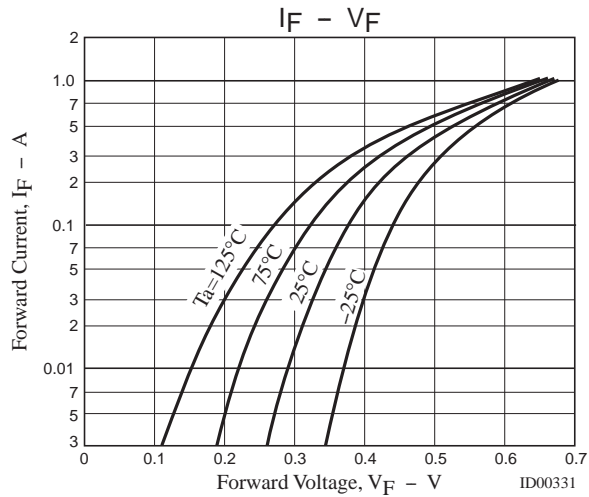
| Parameter                 | Symbol        | Conditions                                    | Ratings |     |      | Unit            |
|---------------------------|---------------|---|---------|-----|------|-----------------|
|                           |               |   | min     | typ | max  |                 |
| Reverse Voltage           | $V_R$         | $I_R=150\mu A$                                | 30      |     |      | V               |
| Forward Voltage           | $V_F$         | $I_F=500mA$                                   |         |     | 0.55 | V               |
| Reverse Current           | $I_R$         | $V_R=15V$                                     |         |     | 30   | $\mu A$         |
| Interterminal Capacitance | C             | $V_R=10V, f=1MHz$                             |         | 16  |      | pF              |
| Reverse Recovery Time     | $t_{rr}$      | $I_F=I_R=100mA$ , See specified Test Circuit. |         |     | 10   | ns              |
| Thermal Resistance        | $R_{th}(j-a)$ |   |         | 560 |      | $^{\circ}C / W$ |

t<sub>rr</sub> Test Circuit



Ordering Information

| Device        | Package | Shipping       | memo    |
|---------------|---------|----------------|---------|
| SB05-03C-TB-E | CP      | 3,000pcs./reel | Pb Free |



## Embossed Taping Specification

### SB05-03C-TB-E

#### 1. Packing Format

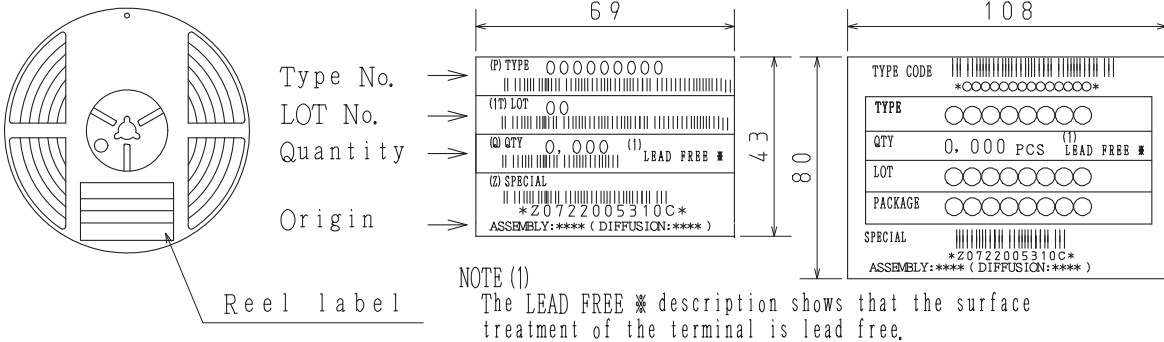
| Package Name | Carrier Tape Type | Maximum Number of devices contained (pcs) |           |           | Packing format  |  |
|--------------|-------------------|---|-----------|-----------|---|--|
|              |                   | Reel                                      | Inner box | Outer box | Inner BOX (C-1)   | Outer BOX (A-7)  |
| CP           | CP                | 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 |

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.

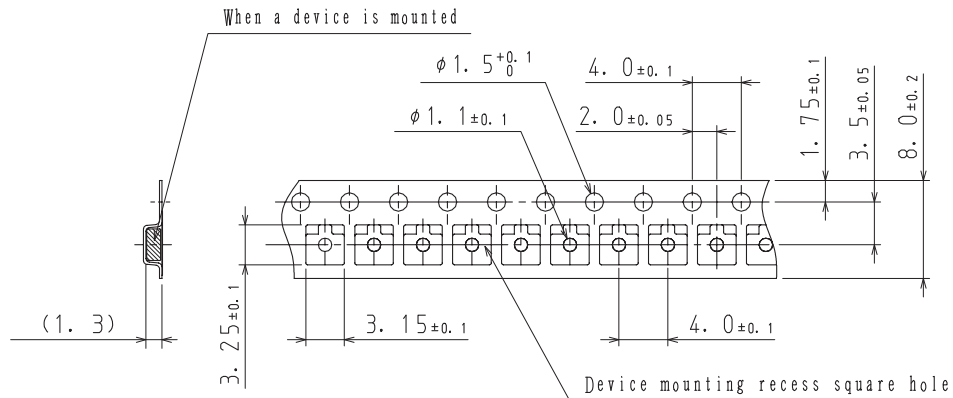
#### Packing method



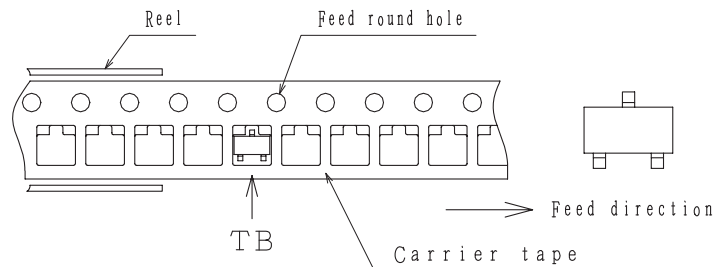
| Label       | JEITA Phase    |
|-------------|----------------|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3  |

#### 2. Taping configuration

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

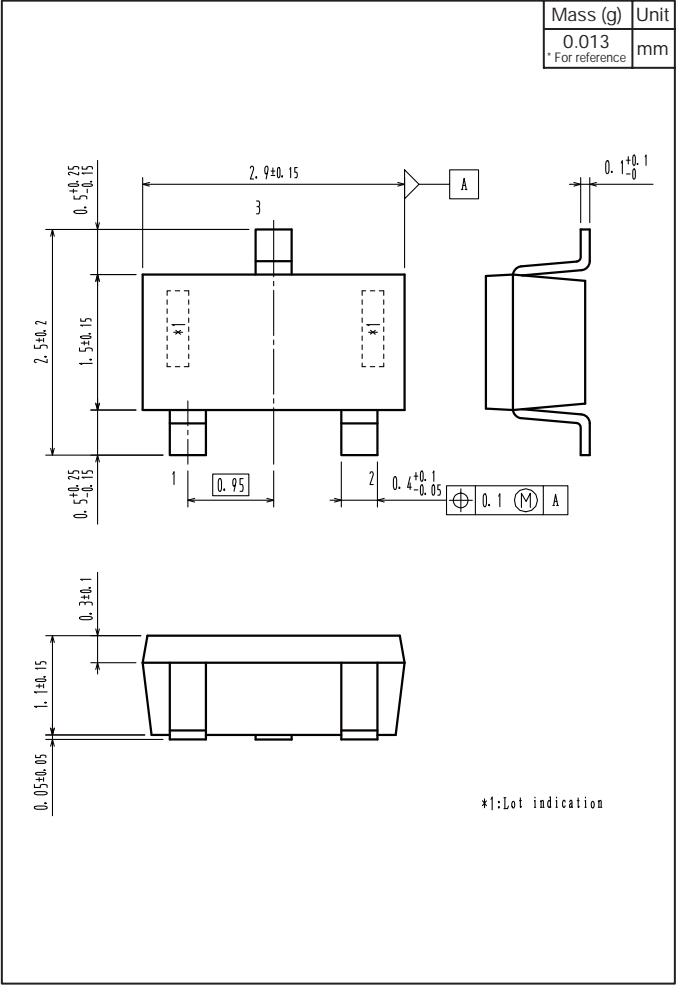


##### 2-2. Device placement direction

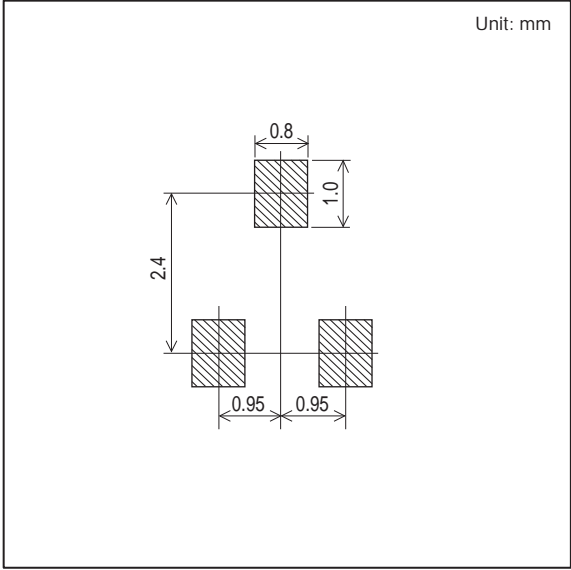


Those with one electrode terminal on the feed hole side.....TB

Outline Drawing  
SB05-03C-TB-E



Land Pattern Example



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