



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## SB05W05C — Schottky Barrier Diode (Twin Type · Cathode Common) 50V, 500mA Rectifier

### 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

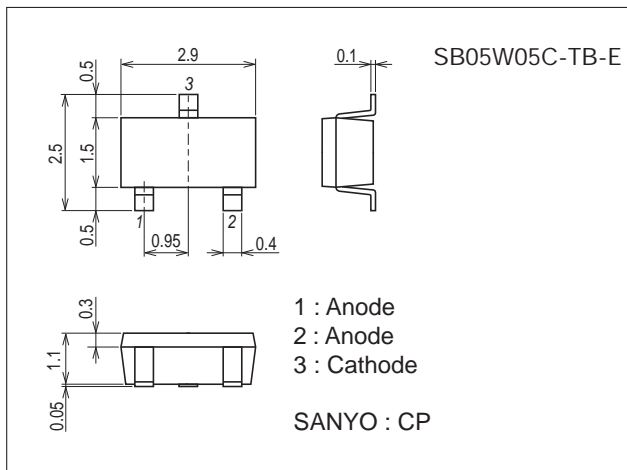
Absolute Maximum Ratings at  $T_a=25^\circ\text{C}$  (Value per element)

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	$I_O$		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	$^\circ\text{C}$

### Package Dimensions

unit : mm (typ)

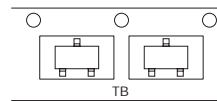
7013A-006



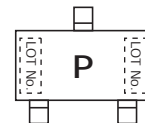
### Product & Package Information

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

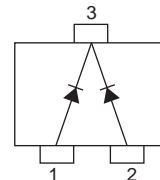
### Packing Type: TB



### Marking



### Electrical Connection

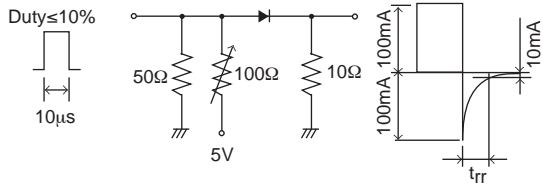


# SB05W05C

## Electrical Characteristics at Ta=25°C (Value per element)

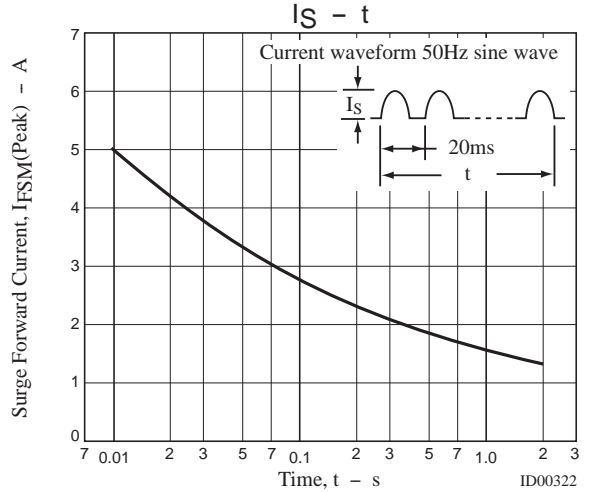
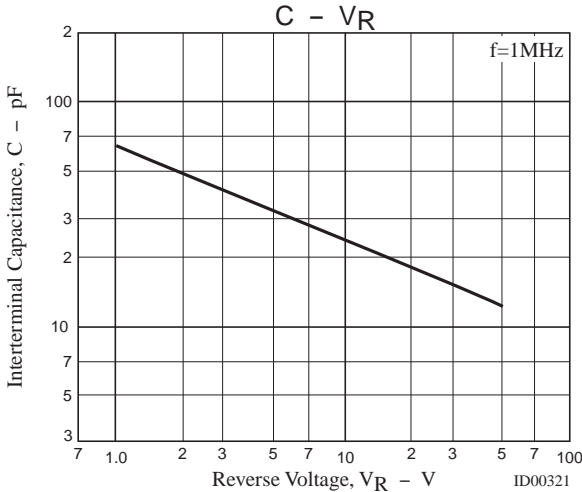
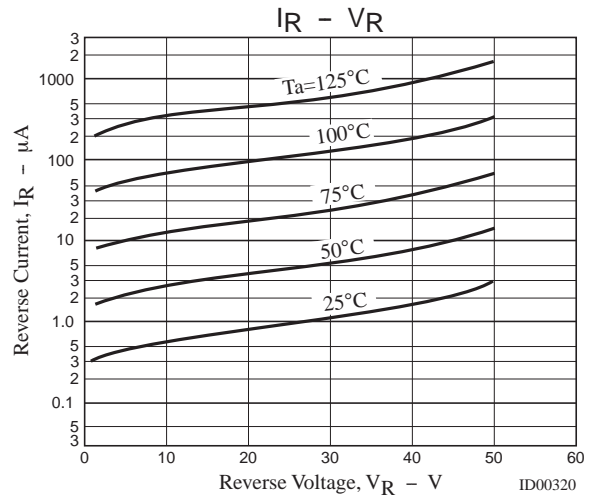
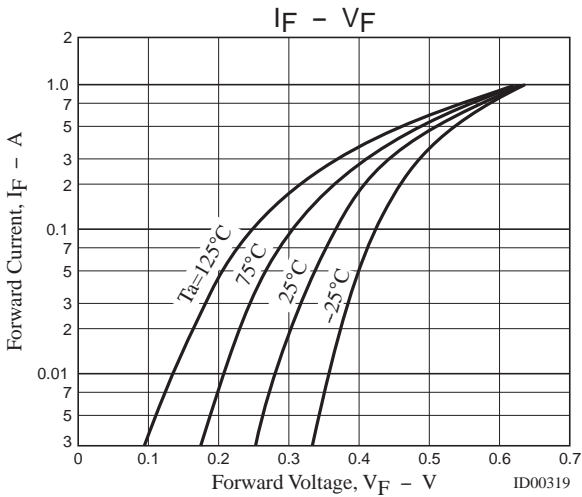
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Reverse Voltage	$V_R$	$I_R=200\mu A$	50			V
Forward Voltage	$V_F$	$I_F=500mA$			0.55	V
Reverse Current	$I_R$	$V_R=25V$			50	$\mu A$
Interterminal Capacitance	C	$V_R=10V, f=1MHz$		24		pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=100mA$ , See specified Test Circuit.			10	ns
Thermal Resistance	$R_{th(j-a)}$			420		$^{\circ}C / W$

### $t_{rr}$ Test Circuit



### Ordering Information

Device	Package	Shipping	memo
SB05W05C-TB-E	CP	3,000pcs./reel	Pb Free



# SB05W05C

## Embossed Taping Specification

SB05W05C-TB-E

### 1. Packing Format

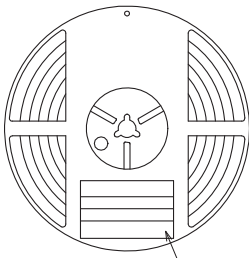
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
CP	CP	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

Reel label, Inner box label  
(unit:mm)

Outer box label

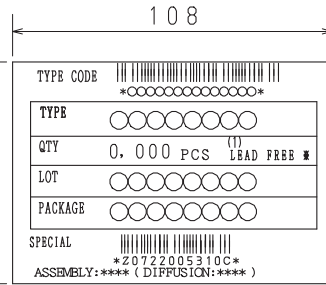
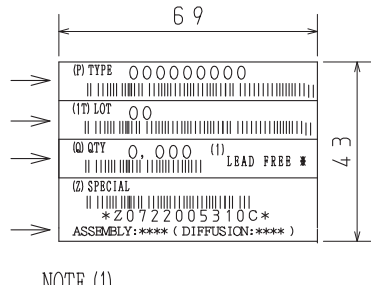
It is a label at the time of factory shipments.  
The form of a label may change in physical distribution process.

#### Packing method



Reel label

Type No.  
LOT No.  
Quantity  
Origin



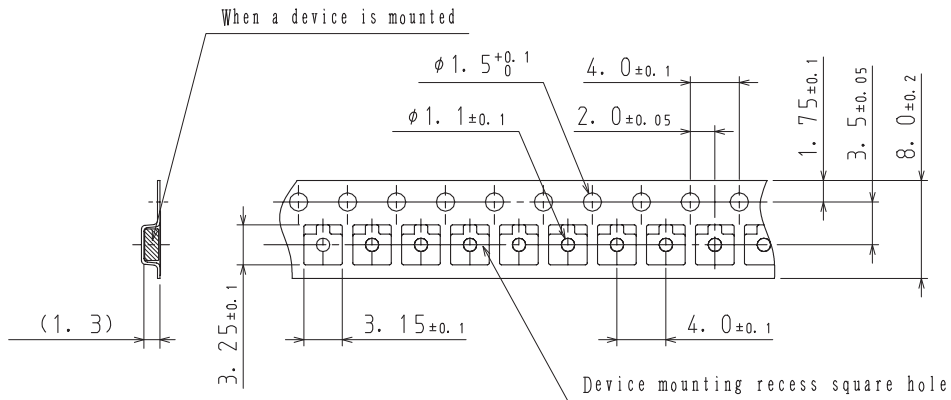
NOTE (1)

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

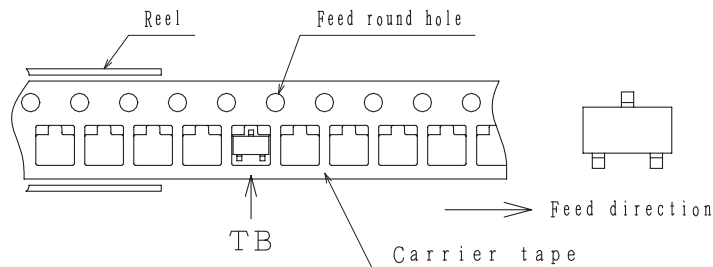
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

### 2. Taping configuration

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



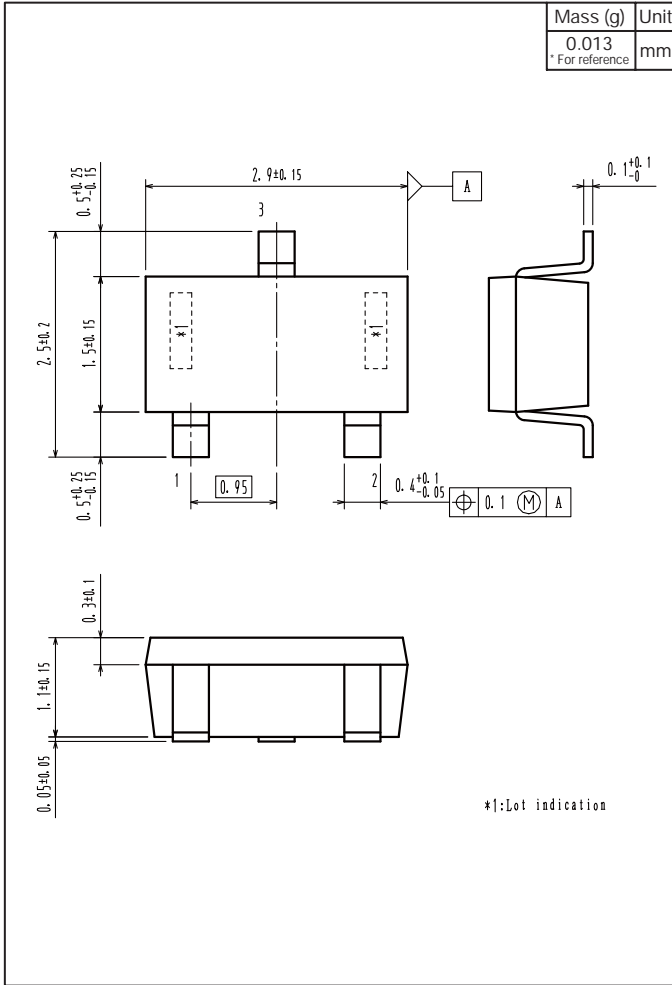
#### 2-2. Device placement direction



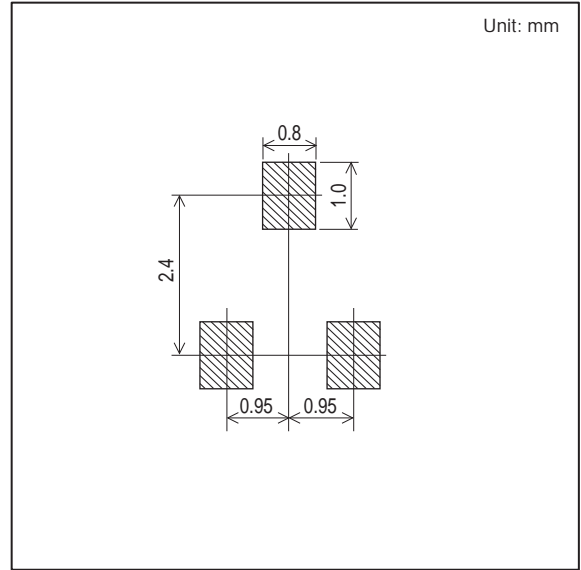
Those with one electrode terminal on the feed hole side.....TB

# SB05W05C

## Outline Drawing SB05W05C-TB-E



## Land Pattern Example



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