



ON Semiconductor®

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SB05-05C

Schottky Barrier Diode 50V, 0.5A, Low IR, Single CP

Applications

- 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
- Fast reverse recovery time (t_{rr} max=10ns)

Specifications

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

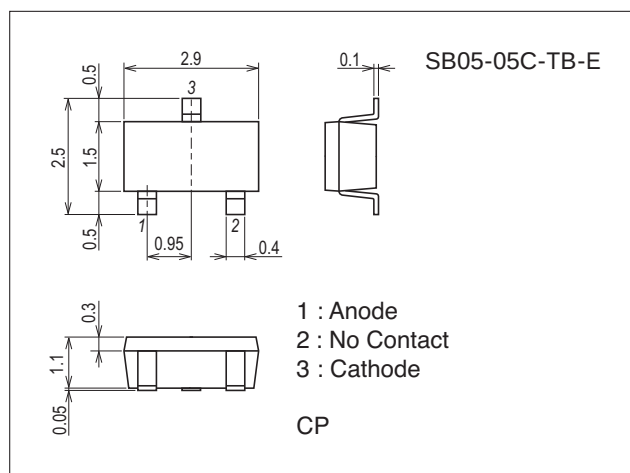
Parameter	Symbol	Conditions	Ratings	Unit
Repetitive Peak Reverse Voltage	V_{RRM}		50	V
Nonrepetitive Peak Reverse Surge Voltage	V_{RSM}		55	V
Average Output Current	I_O		500	mA
Surge Forward Current	I_{FSM}	50Hz sine wave, 1 cycle	5	A
Junction Temperature	T_J		-55 to +125	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +125	$^\circ\text{C}$

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)

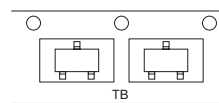
7013A-004



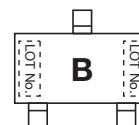
Product & Package Information

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

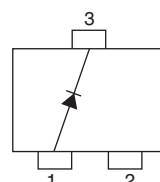
Packing Type: TB



Marking



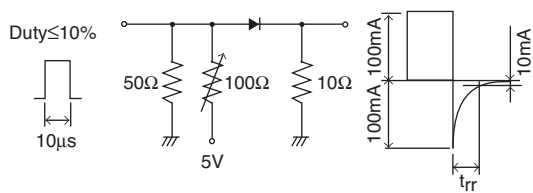
Electrical Connection



Electrical Characteristics at Ta=25°C

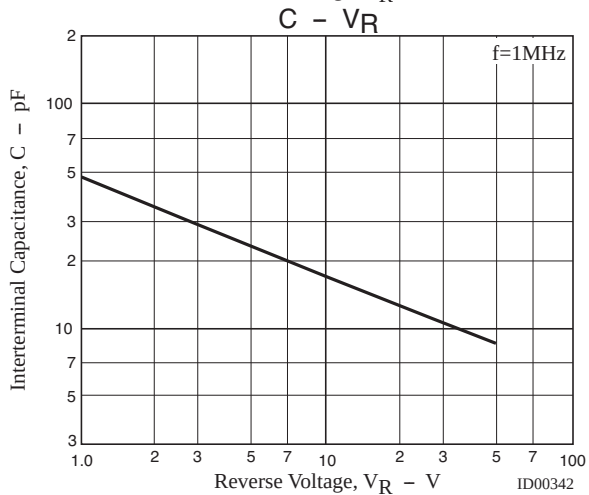
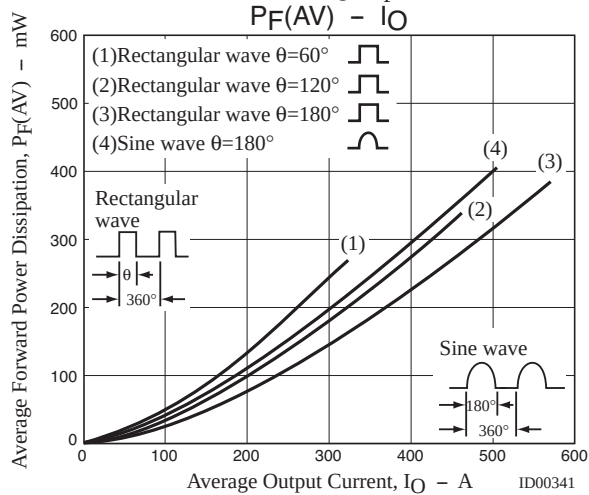
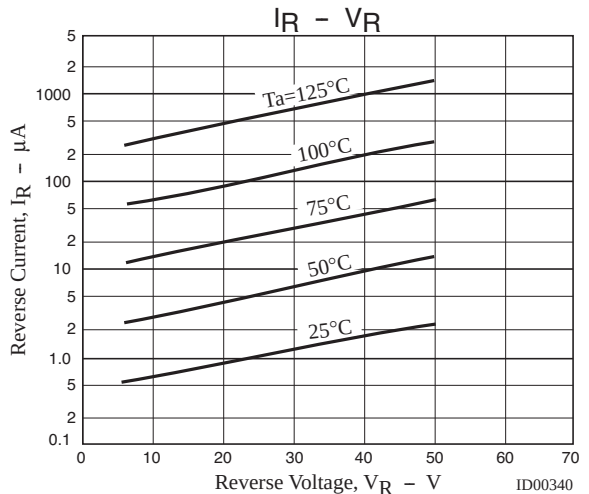
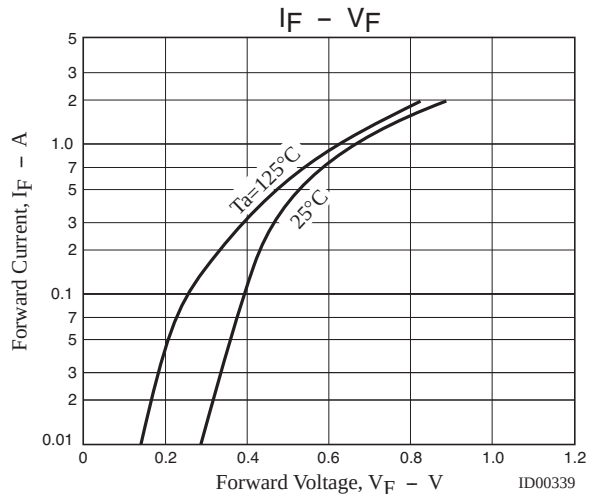
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Reverse Voltage	V_R	$I_R=200\mu A$, $T_j=25^\circ C$	50			V
Forward Voltage	V_F	$I_F=500mA$, $T_j=25^\circ C$			0.55	V
Reverse Current	I_R	$V_R=25V$, $T_j=25^\circ C$			50	μA
Interterminal Capacitance	C	$V_R=10V$, $f=1MHz$		17		pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=100mA$, $T_j=25^\circ C$, See specified Test Circuit.			10	ns
Thermal Resistance	$R_{th(j-a)1}$			420		$^\circ C / W$
	$R_{th(j-a)2}$	Mounted in Cu-foiled area of $16mm^2 \times 0.2mm$ on glass epoxy board		330		$^\circ C / W$

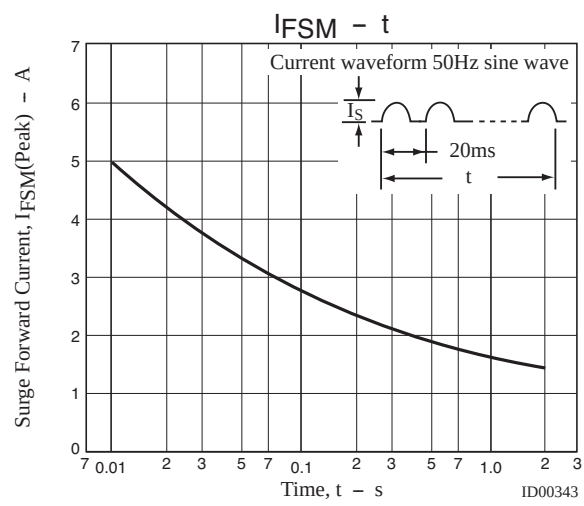
t_{rr} Test Circuit



Ordering Information

Device	Package	Shipping	memo
SB05-05C-TB-E	CP	3,000pcs./reel	Pb Free





Embossed Taping Specification

SB05-05C-TB-E

1. Packing Format

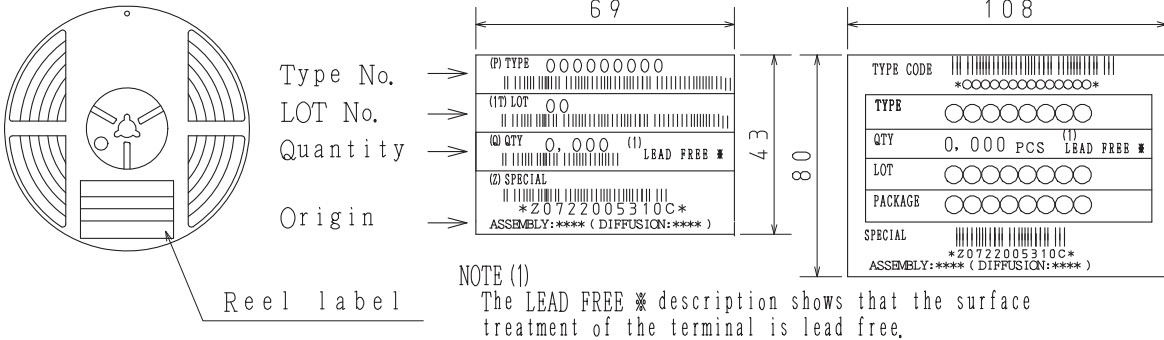
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
CP	CP	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

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.

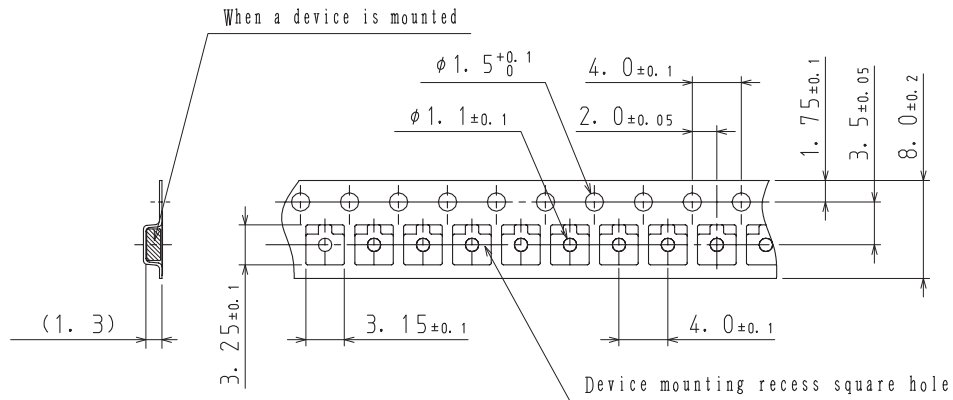
Packing method



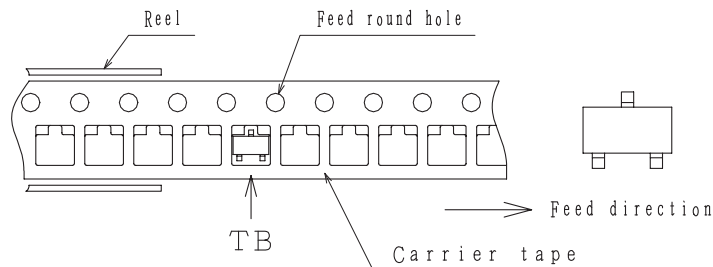
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

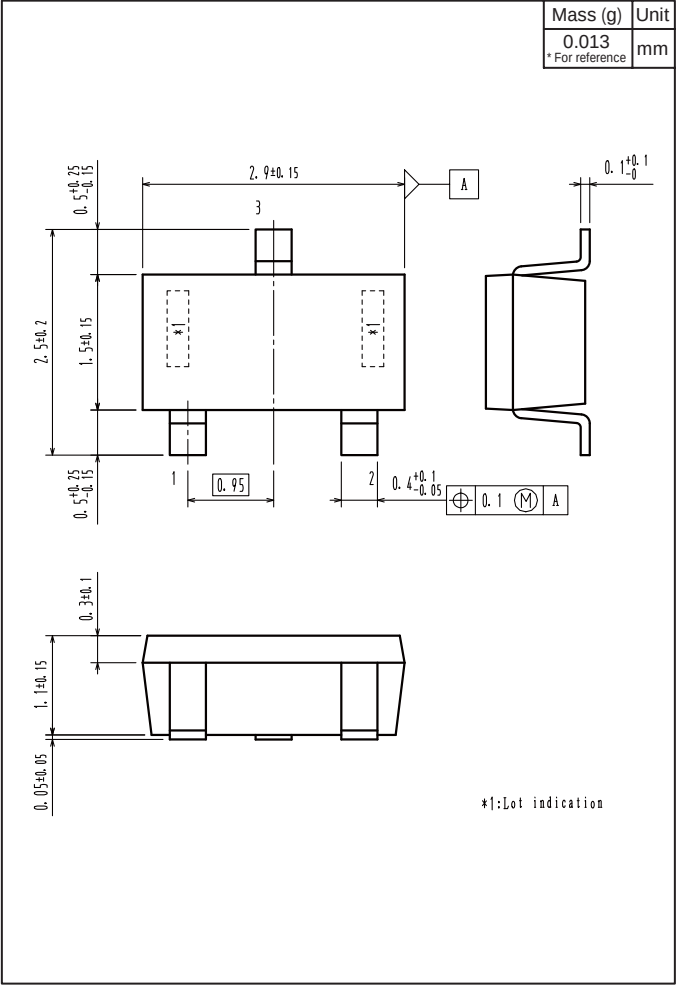


2-2. Device placement direction

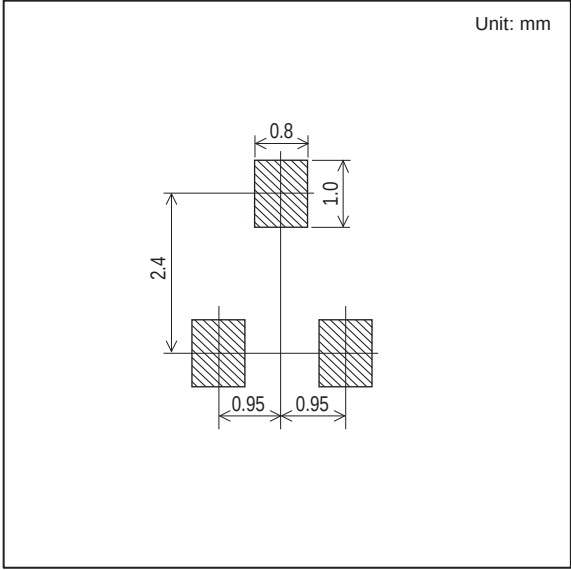


Those with one electrode terminal on the feed hole side.....TB

Outline Drawing
SB05-05C-TB-E



Land Pattern Example



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