



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

Schottky Barrier Diode

SB2003M — 30V, 2.0A Rectifier

Applications

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

Features

- Low switching noise
- Low leakage current and high reliability due to highly reliable planar structure
- Ultrasmall package permitting applied sets to be small and slim (mounting height 0.85mm)

Specifications

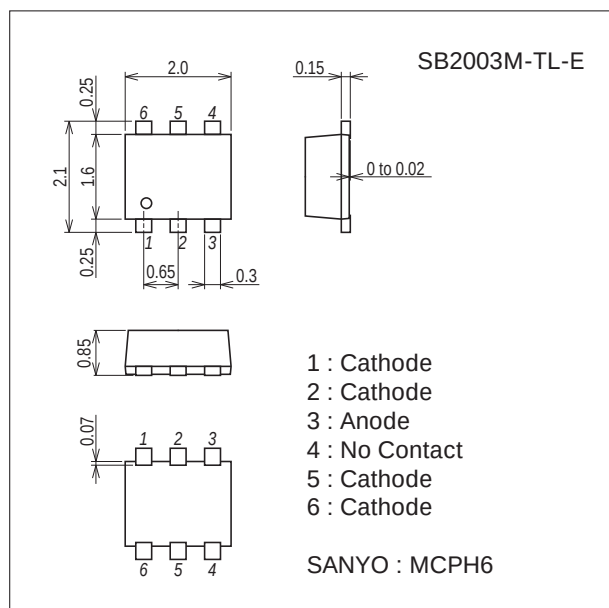
Absolute Maximum Ratings at Ta=25°C

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		2.0	A
Surge Forward Current	I_{FSM}	50Hz sine wave, 1 cycle	10	A
Junction Temperature	T_j		-55 to +125	°C
Storage Temperature	T_{stg}		-55 to +125	°C

Package Dimensions

unit : mm (typ)

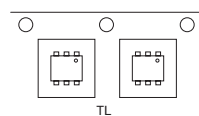
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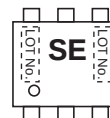
Product & Package Information

- Package : MCPH6
- JEITA, JEDEC : SC-88, SC-70-6, SOT-363
- Minimum Packing Quantity : 3,000 pcs./reel

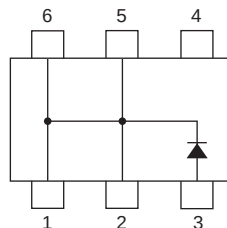
Packing Type : TL



Marking



Electrical Connection

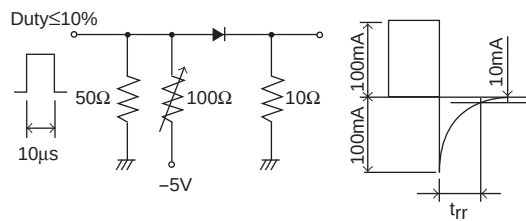


SB2003M

Electrical Characteristics at Ta=25°C

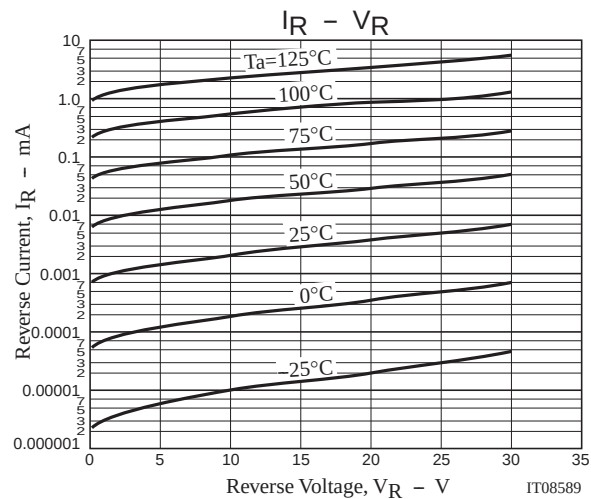
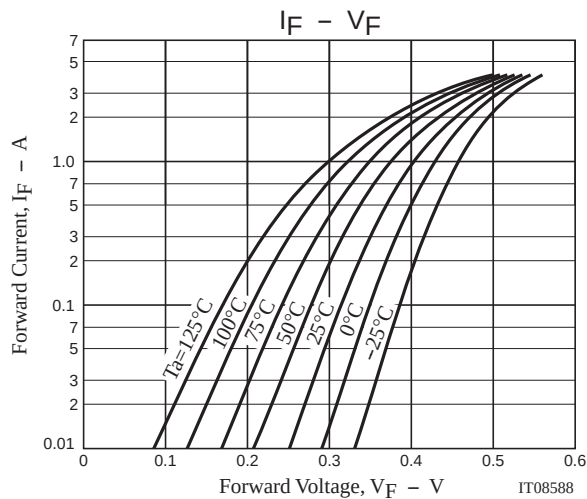
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Reverse Voltage	V_R	$I_R=0.2\text{mA}$	30			V
Forward Voltage	V_F	$I_F=1.0\text{A}$		0.40	0.45	V
		$I_F=2.0\text{A}$		0.45	0.50	V
Reverse Current	I_R	$V_R=15\text{V}$			30	μA
Interterminal Capacitance	C	$V_R=10\text{V}$, $f=1\text{MHz}$		75		pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=100\text{mA}$, See specified Test Circuit.			20	ns
Thermal Resistance	$R_{th(j-a)1}$	When mounted in Cu-foiled area of $1.44\text{mm}^2 \times 0.03\text{mm}$ on glass epoxy substrate		93.4		$^{\circ}\text{C} / \text{W}$
	$R_{th(j-a)2}$	When mounted on ceramic substrate ($500\text{mm}^2 \times 0.8\text{mm}$)		71.4		$^{\circ}\text{C} / \text{W}$

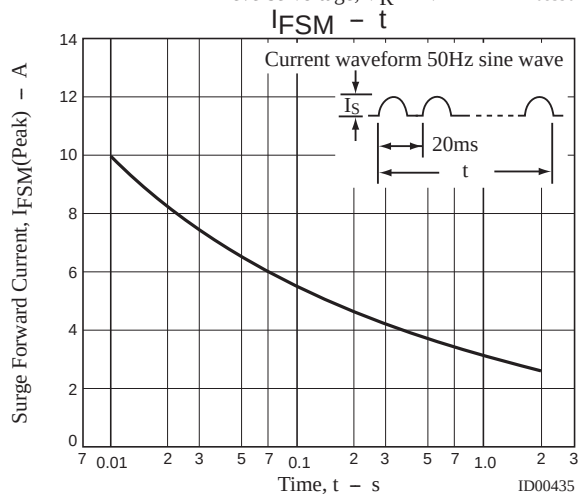
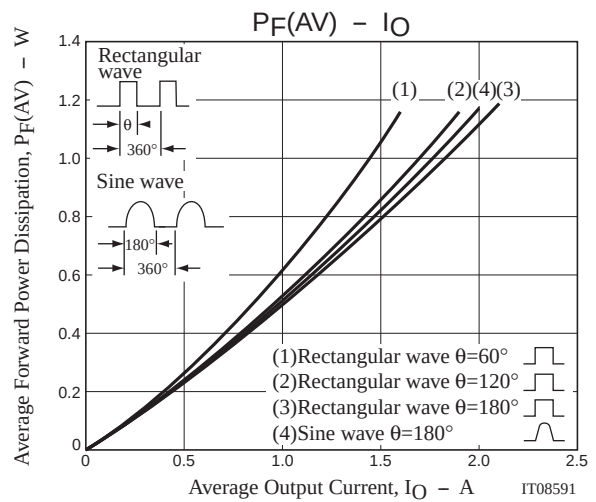
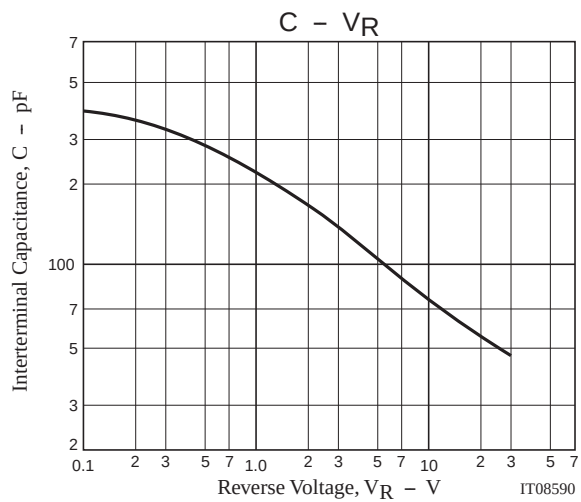
t_{rr} Test Cicuit



Ordering Information

Device	Package	Shipping	memo
SB2003M-TL-E	MCPH6	3,000pcs./reel	Pb Free





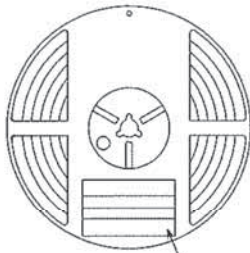
Embossed Taping Specification

SB2003M-TL-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)
MCPH6	MCP4	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

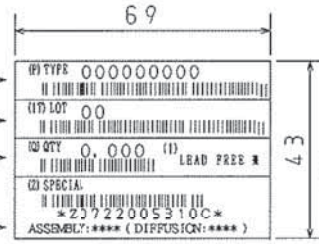
Packing method



Reel label

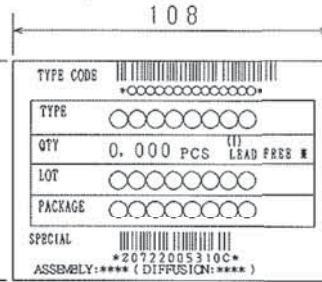
Type No.
LOT No.
Quantity
Origin

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.



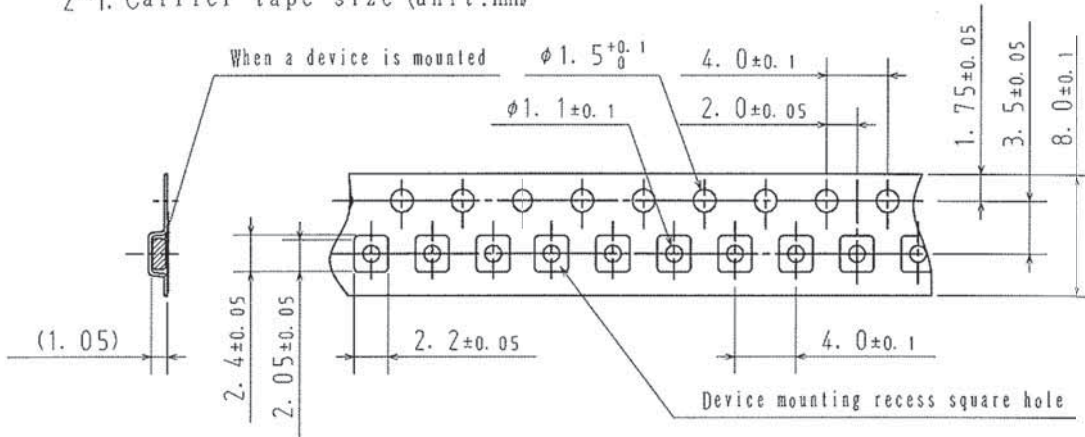
NOTE (1)

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

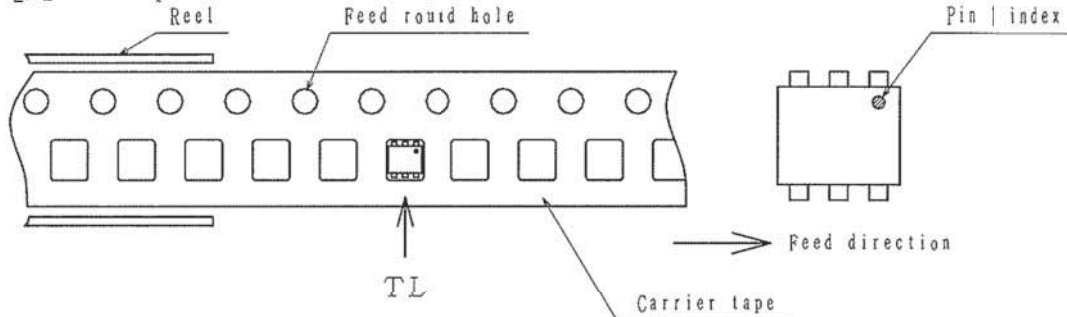
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

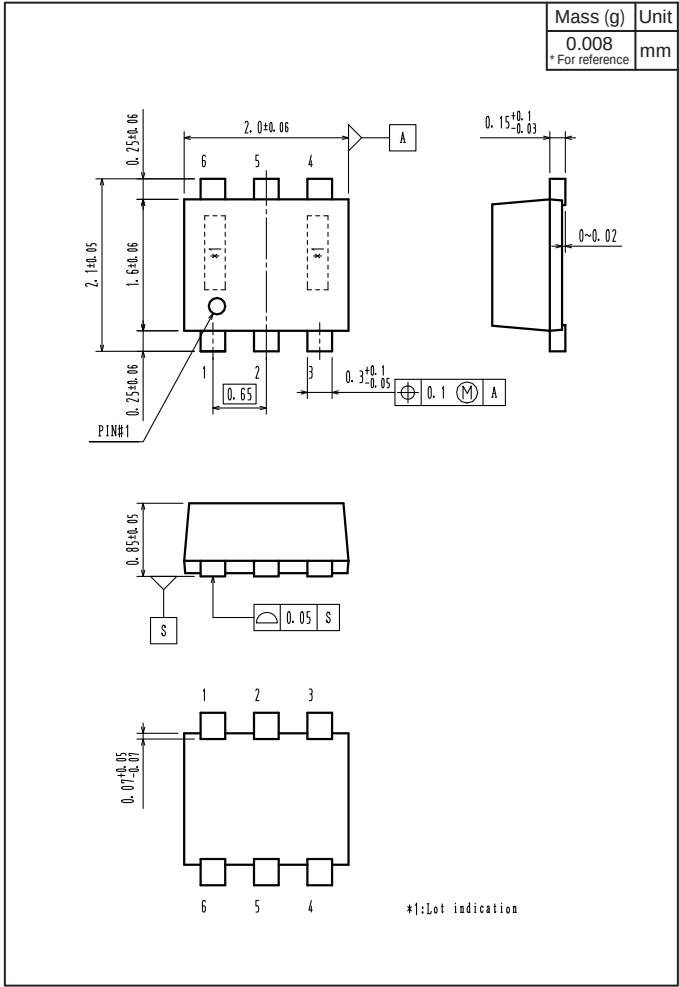


2-2. Device placement direction

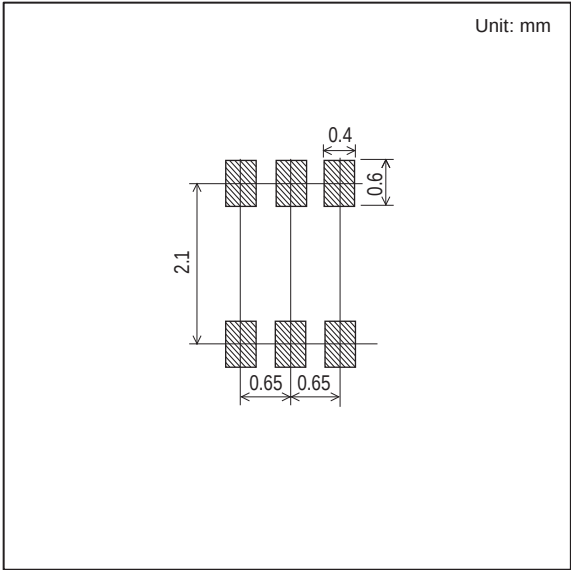


Those with pin | index on the feed hole side.....TL

Outline Drawing
SB2003M-TL-E



Land Pattern Example



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