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SB01-05Q

Schottky Barrier Diode 50V, 0.1A, Low IR, Single MCP

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
- Small-sized package, permitting SB01-05Q-applied sets to be compact and slim
- Fast reverse recovery time (t_{rr} max=10ns)

Specifications

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

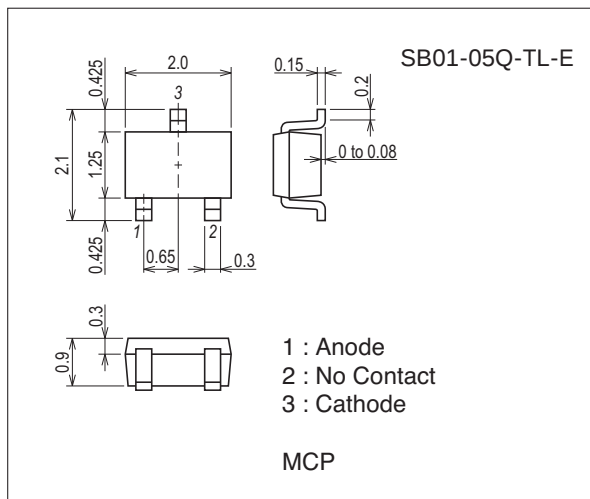
Parameter	Symbol	Conditions	Ratings	Unit
Repetitive Peak Reverse Voltage	V_{RRM}		50	V
Nonrepetitive Peak Reverse Surge Voltage	V_{RSM}		55	V
Average Output Current	I_O		100	mA
Surge Forward Current	I_{FSM}	50Hz sine wave, 1 cycle	2	A
Junction Temperature	T_j		-55 to +125	$^\circ\text{C}$
Storage Temperature	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)

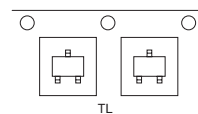
7023A-005



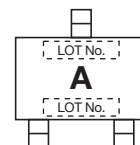
Product & Package Information

- Package : MCP
- JEITA, JEDEC : SC-70, SOT-323
- Minimum Packing Quantity : 3,000 pcs./reel

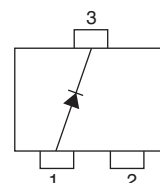
Packing Type: TL



Marking



Electrical Connection

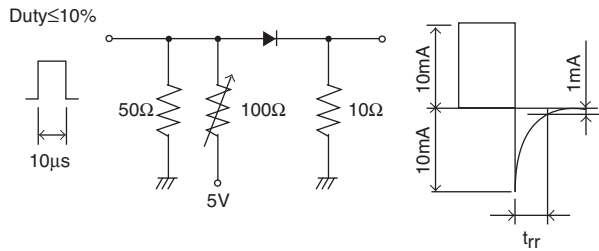


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Electrical Characteristics at Ta=25°C

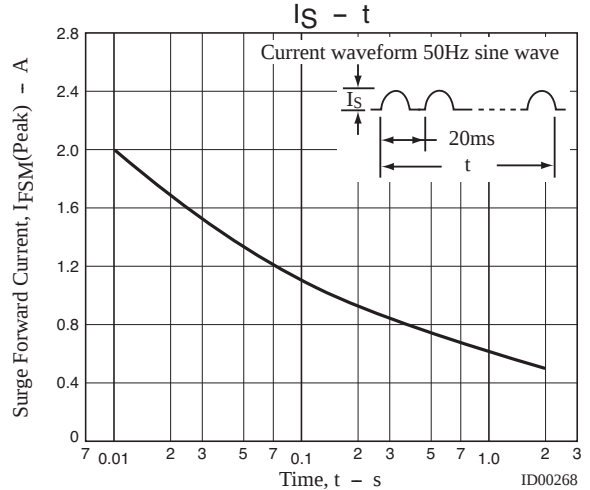
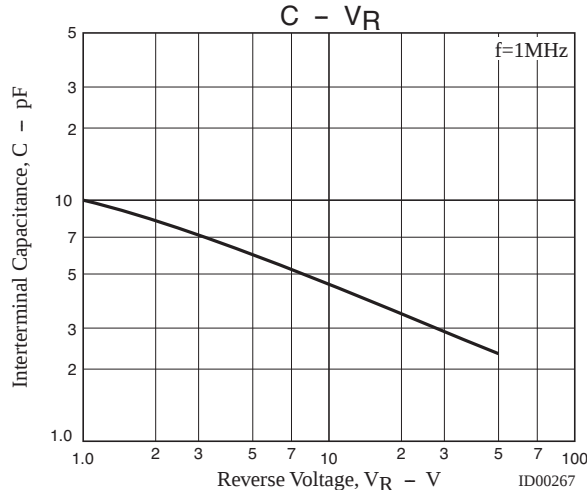
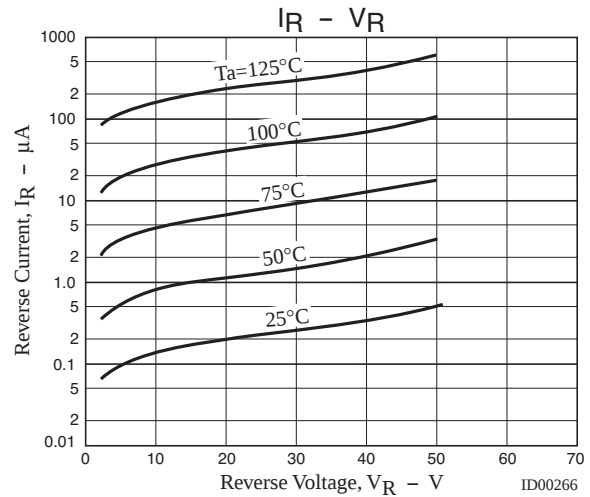
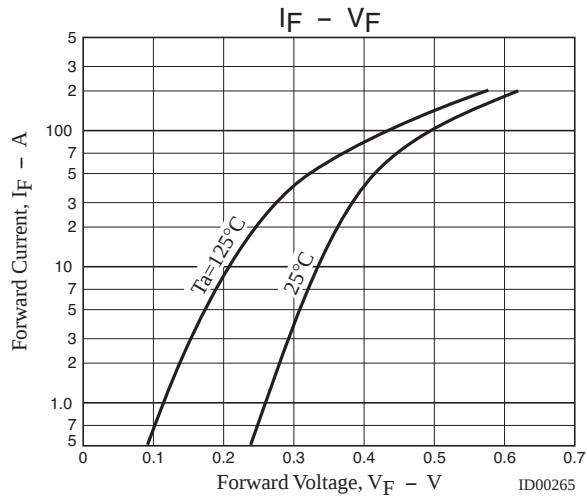
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Reverse Voltage	V_R	$I_R=50\mu A$	50			V
Forward Voltage	V_F	$I_F=100mA$			0.55	V
Reverse Current	I_R	$V_R=25V$			15	μA
Interterminal Capacitance	C	$V_R=10V, f=1MHz$		4.4		pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=10mA$, See specified Test Circuit.			10	ns

t_{rr} Test Circuit



Ordering Information

Device	Package	Shipping	memo
SB01-05Q-TL-E	MCP	3,000pcs./reel	Pb Free



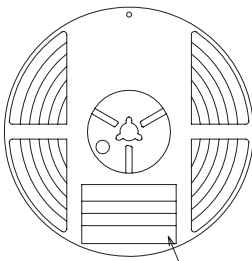
Embossed Taping Specification

SB01-05Q-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)
MCP	MCP	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)

69	(P) TYPE 000000000
	(1) LOT 00
	(Q) QTY 0,000 (1) LEAD FREE *
	(2) SPECIAL
	Z0722005310C
	ASSEMBLY:**** (DIFFUSION:****)

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

108	TYPE CODE
	000000000000
	TYPE 00000000
	QTY 0,000 PCS (1) LEAD FREE *
	LOT 00000000
	PACKAGE 00000000
	SPECIAL
	Z0722005310C
	ASSEMBLY:**** (DIFFUSION:****)

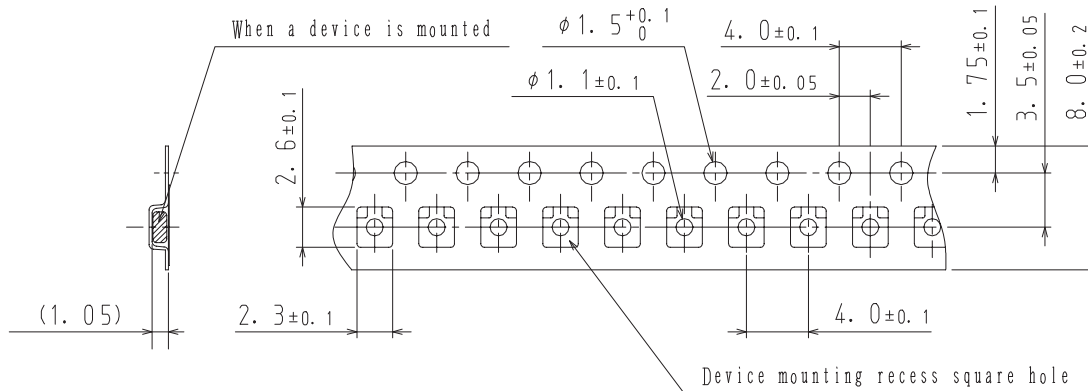
NOTE (1)

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

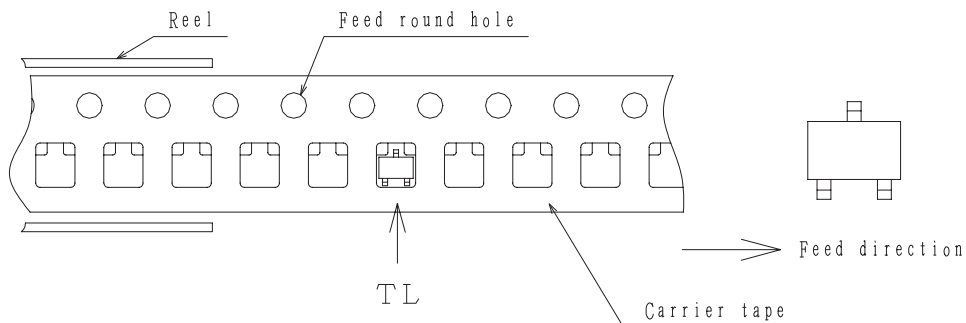
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

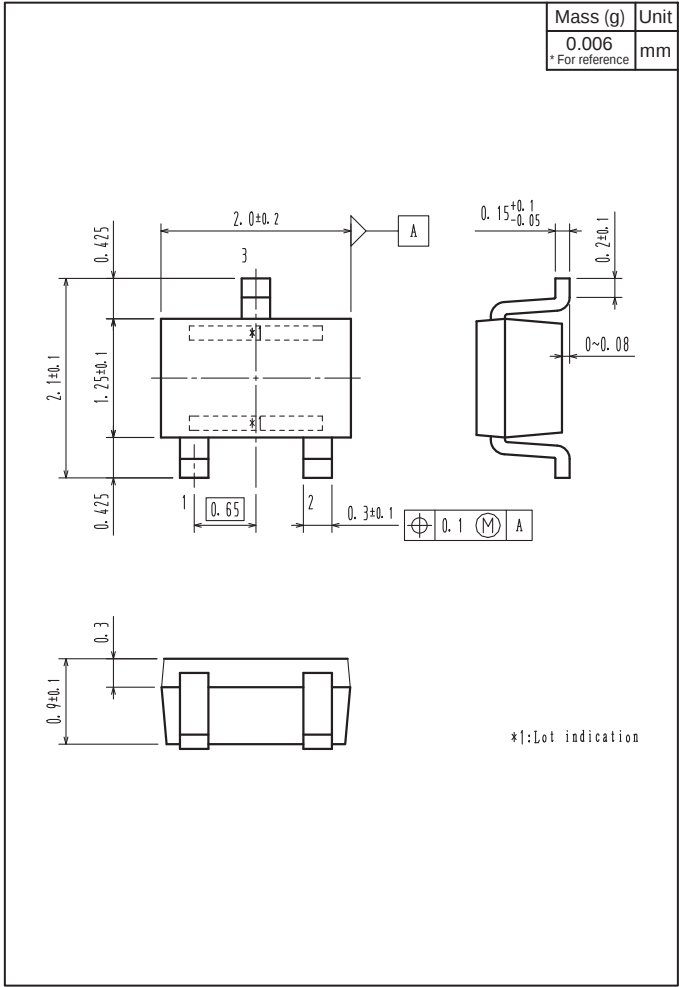


2-2. Device placement direction

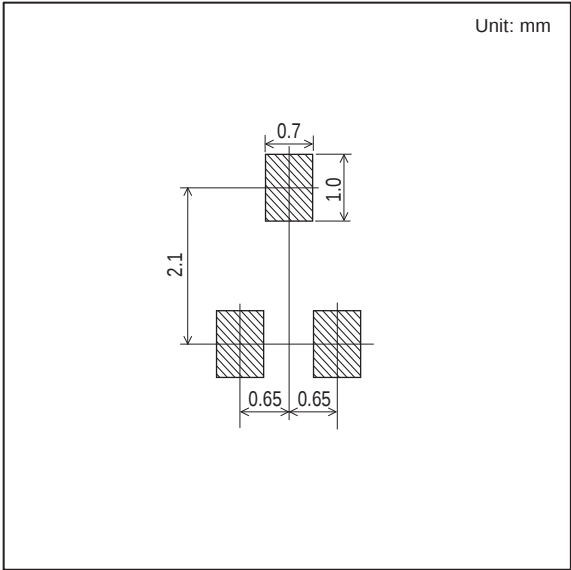


Those with oen electrode terminal on the feed hole side.....TL

Outline Drawing
SB01-05Q-TL-E



Land Pattern Example



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