



# SBE002

## Schottky Barrier Diode 50V, 1A, Low IR, Single CPH6

ON Semiconductor®

<http://onsemi.com>

### Applications

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

### Features

- Low forward voltage ( $V_F$  max=0.55V)
- Fast reverse recovery time ( $t_{rr}$  max=10ns)
- Low switching noise
- Low leakage current and high reliability due to highly reliable planar structure
- Ultrasmall package, permitting SBE002-applied sets to be compact and slim (mounting height 0.9mm)
- Large allowable power dissipation
- Halogen free compliance

### Specifications

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

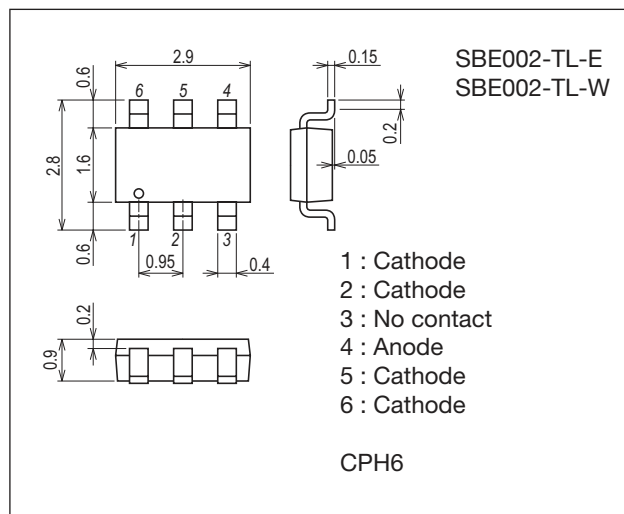
Parameter	Symbol	Conditions	Ratings	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$		50	V
Nonrepetitive Peak Reverse Surge Voltage	$V_{RSM}$		55	V
Average Output Current	$I_O$		1	A
Surge Forward Current	$I_{FSM}$	50Hz sine wave, 1 cycle	10	A
Junction Temperature	$T_j$		-55 to +125	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +125	$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

### Package Dimensions

unit : mm (typ)

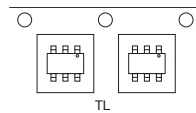
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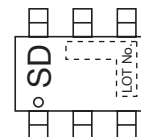
### Product & Package Information

- Package : CPH6
- JEITA, JEDEC : SC-74, SOT-26, SOT-457
- Minimum Packing Quantity : 3,000 pcs./reel

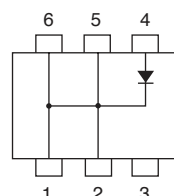
### Packing Type: TL



### Marking



### Electrical Connection



### ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

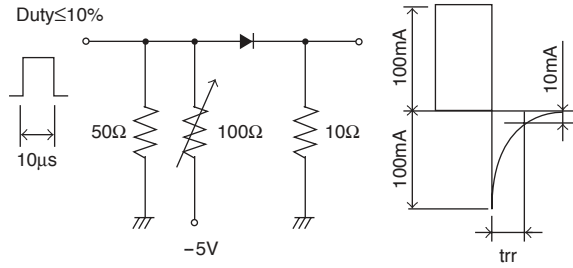
## SBE002

### Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Reverse Voltage	$V_R$	$I_R=300\mu\text{A}$	50			V
Forward Voltage	$V_F$	$I_F=1\text{A}$			0.55	V
Reverse Current	$I_R$	$V_R=25\text{V}$			80	$\mu\text{A}$
Interterminal Capacitance	C	$V_R=10\text{V}$ , $f=1\text{MHz}$		52		pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=100\text{mA}$ , See specified Test Circuit.			10	ns
Thermal Resistance	$R_{th(j-a)}$	When mounted on ceramic substrate (600mm <sup>2</sup> ×0.8mm)		110		$^\circ\text{C} / \text{W}$

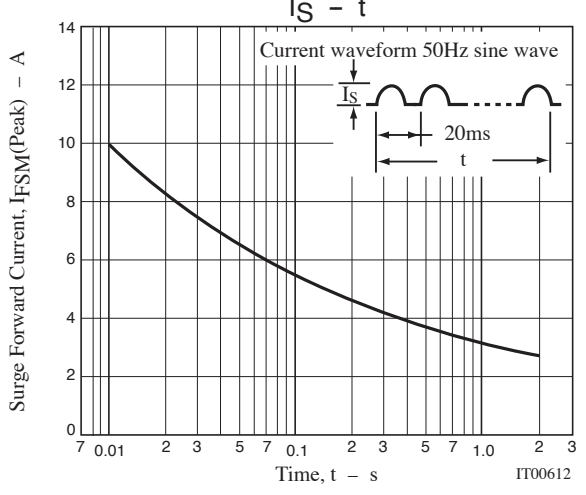
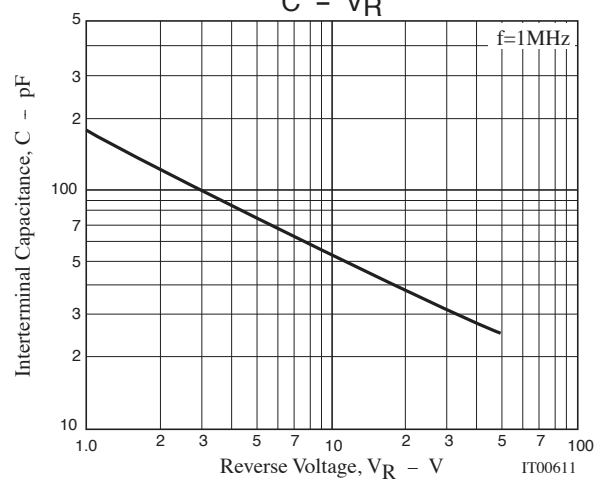
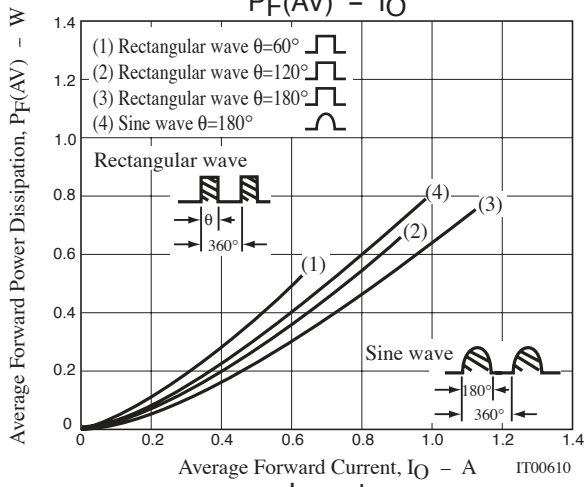
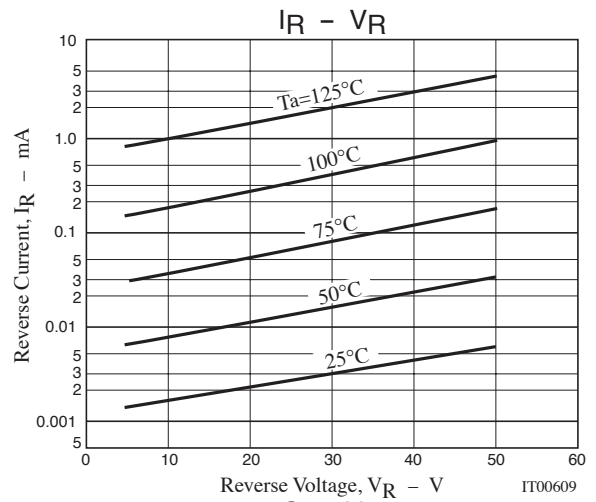
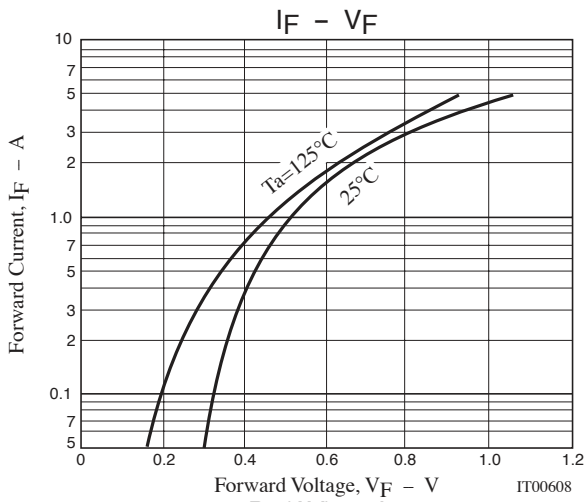
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

### $t_{rr}$ Test Circuit



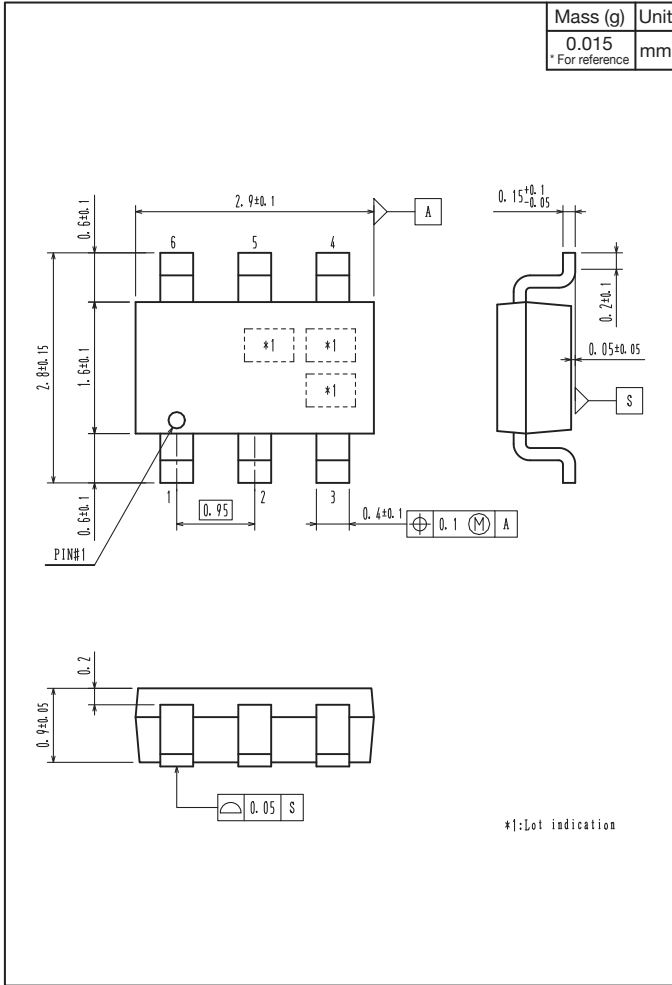
### Ordering Information

Device	Package	Shipping	memo
SBE002-TL-E	CPH6	3,000pcs./reel	Pb-Free
SBE002-TL-W	CPH6	3,000pcs./reel	Pb-Free and Halogen Free

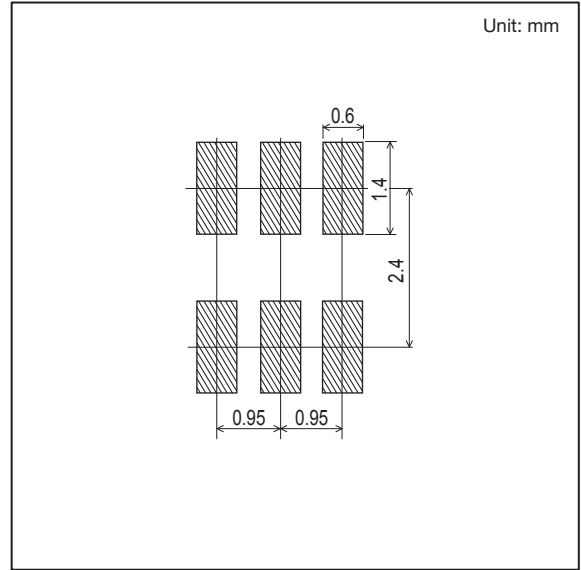


Outline Drawing

SBE002-TL-E, SBE002-TL-W



Land Pattern Example



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