Ordering number : EN8966A

SBE812

Schottky Barrier Diode

60V, 1A, Low I_R, Non-Monolithic Dual VEC8 Common Cathode

ON Semiconductor®

http://onsemi.com

Applications

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

Features

- Small switching noise
- Low leakage current and high reliability due to highly reliable planar structure
- Ultrasmall package allows applied sets to be made small and thin

Specifications

Absolute Maximum Ratings at Ta=25°C (Value per element)

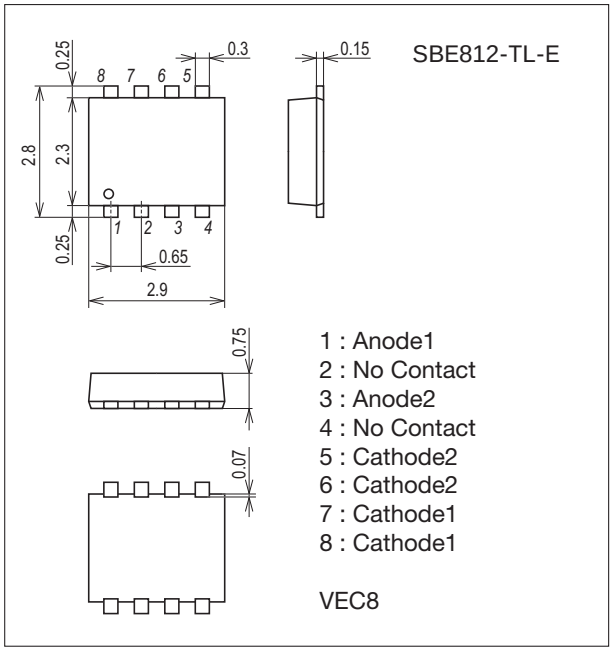
Parameter	Symbol	Conditions	Ratings	Unit
Repetitive Peak Reverse Voltage	V_{RRM}		60	V
Nonrepetitive Peak Reverse Surge Voltage	V_{RSM}		65	V
Average Output Current	I_O		1.0	A
Surge Forward Current	I_{FSM}	50Hz sine wave, 1 cycle	10	A
Junction Temperature	Tj		−55 to +125	°C
Storage Temperature	Tstg		−55 to +125	°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)

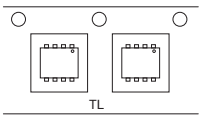
7012-001



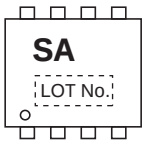
Product & Package Information

- Package : VEC8
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

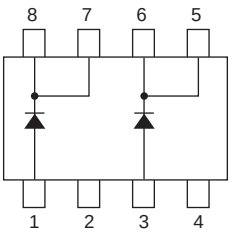
Packing Type : TL



Marking



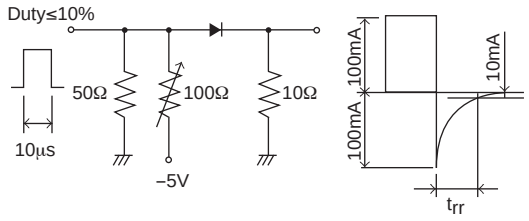
Electrical Connection



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

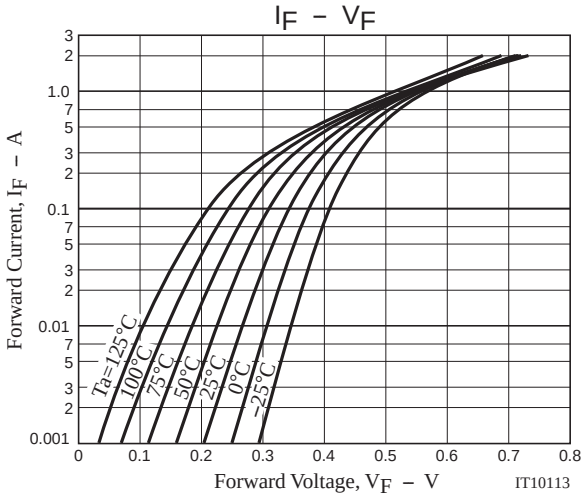
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Reverse Voltage	V_R	I_R=0.2mA	60			V
Forward Voltage	V_F	I_F=1A		0.55	0.60	V
Reverse Current	I_R	V_R=30V			30	μA
Interterminal Capacitance	C	V_R=10V, f=1MHz		35		pF
Reverse Recovery Time	t_{rr}	I_F=100mA, See specified Test Circuit.			10	ns
Thermal Resistance	Rth(j-a)1	When Mounted in Cu-foiled area of 1.92mm²x0.03mm on glass epoxy substrate		80		°C / W
	Rth(j-a)2	When mounted on ceramic substrate (1000mm²x0.8mm)		75		°C / W

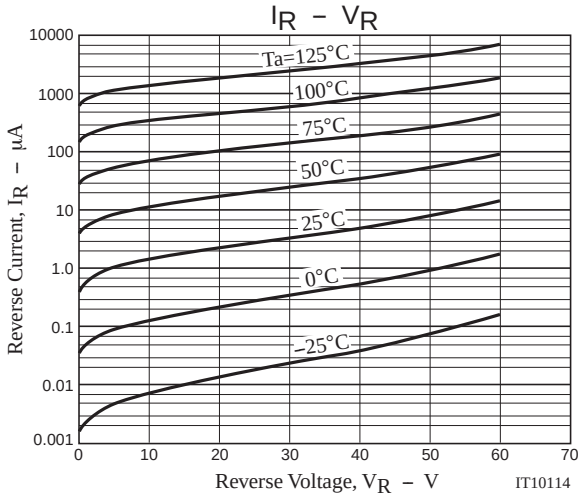
t_{rr} Test Circuit

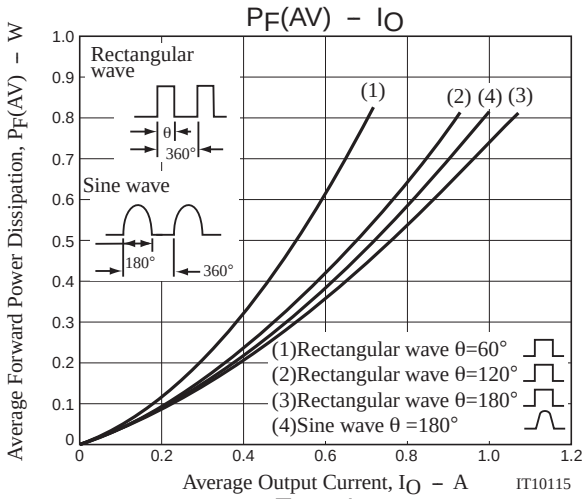


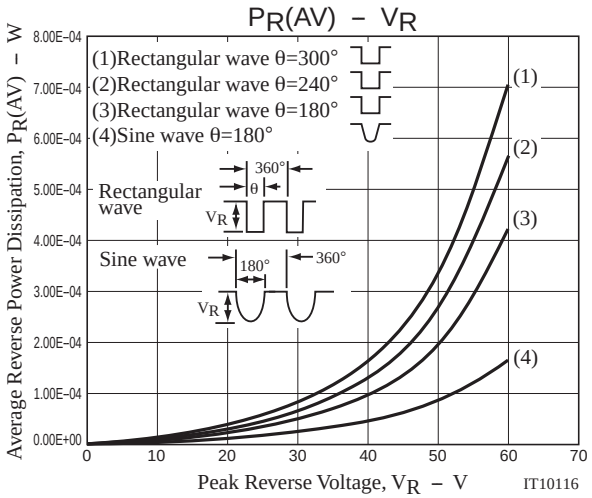
Ordering Information

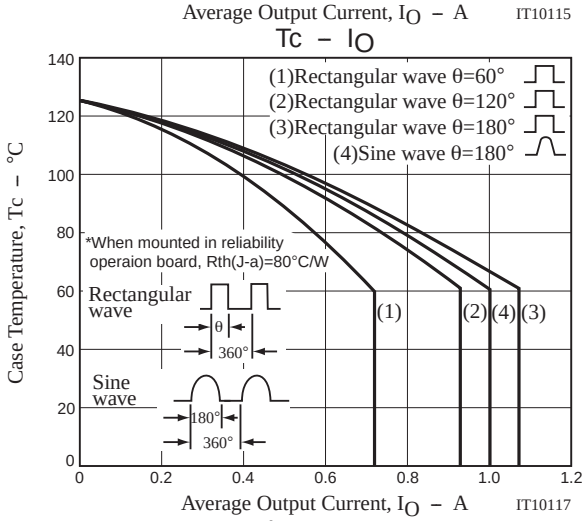
Device	Package	Shipping	memo
SBE812-TL-E	VEC8	3,000pcs./reel	Pb Free

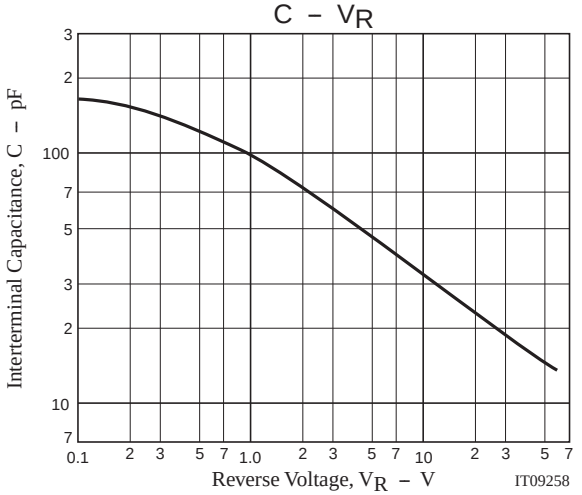


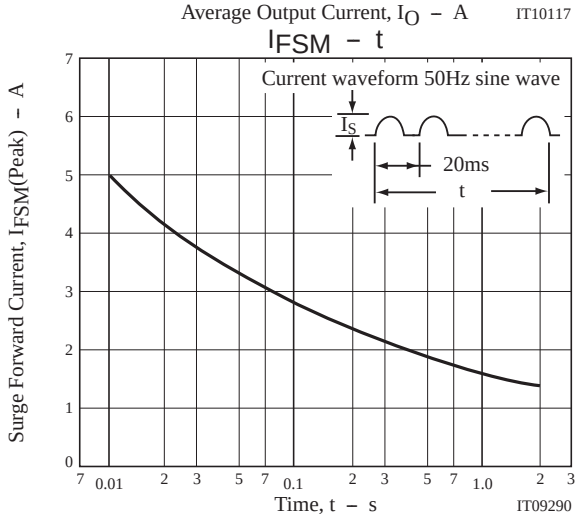



PF(AV) – IO
Average Forward Power Dissipation, PF(AV) – W
Average Output Current, IO – A
IT10115
Rectangular wave
θ
360°
Sine wave
180°
360°
(1)
(2) (4) (3)
(1)Rectangular wave θ=60°
(2)Rectangular wave θ=120°
(3)Rectangular wave θ=180°
(4)Sine wave θ =180°


PR(AV) – VR
Average Reverse Power Dissipation, PR(AV) – W
Peak Reverse Voltage, VR – V
IT10116
(1)Rectangular wave θ=300°
(2)Rectangular wave θ=240°
(3)Rectangular wave θ=180°
(4)Sine wave θ=180°
Rectangular wave
Sine wave
VR
(1)
(2)
(3)
(4)


Tc – IO
Case Temperature, Tc – °C
Average Output Current, IO – A
IT10117
(1)Rectangular wave θ=60°
(2)Rectangular wave θ=120°
(3)Rectangular wave θ=180°
(4)Sine wave θ=180°
*When mounted in reliability operaion board, Rth(J-a)=80°C/W
Rectangular wave
Sine wave
θ
360°
180°
(1)
(2) (4) (3)


C – VR
Interterminal Capacitance, C – pF
Reverse Voltage, VR – V
IT09258


IFSM – t
Surge Forward Current, IFSM(Peak) – A
Time, t – s
IT09290
Current waveform 50Hz sine wave
IS
20ms
t

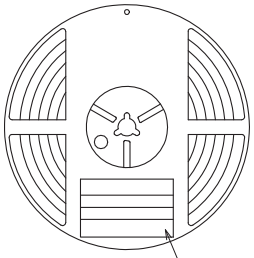
Taping Specification

SBE812-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)
VEC8	CPH6	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

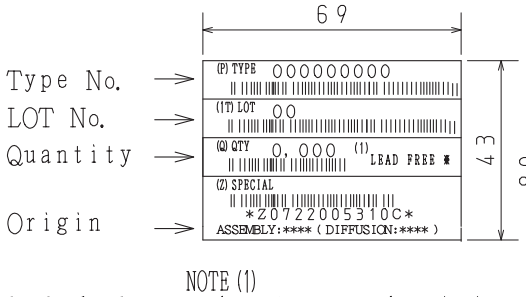
Packing method



Reel label

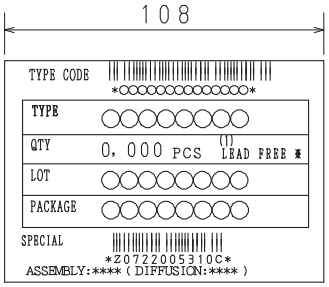
Reel label, Inner box label

(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.



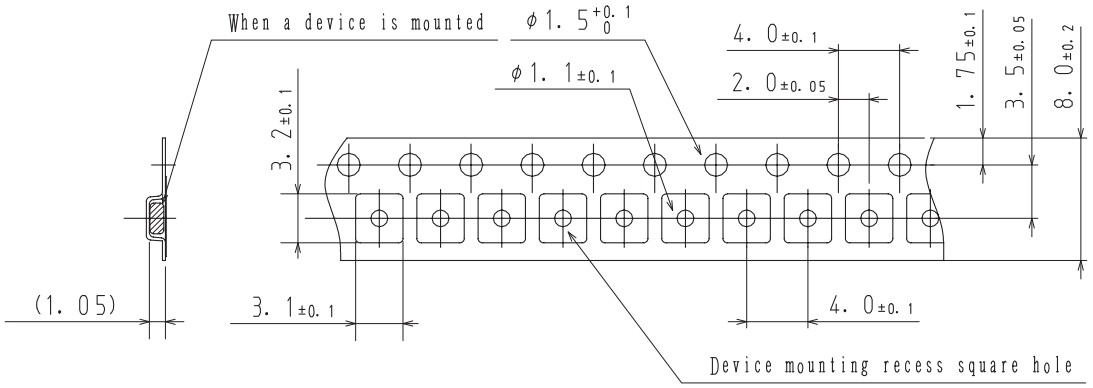
NOTE (1)

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

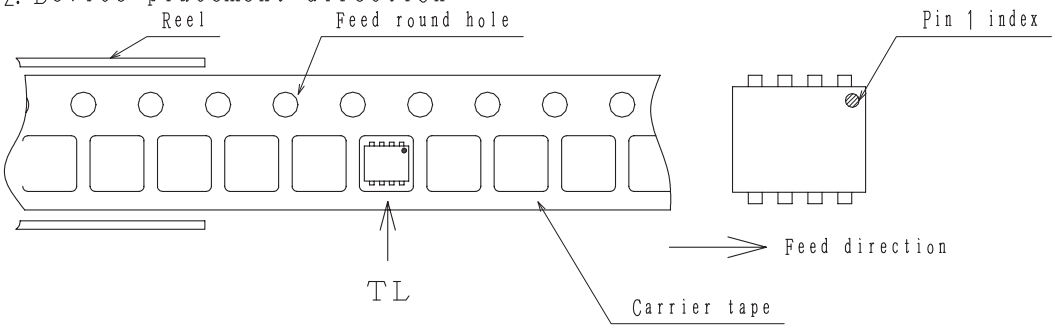
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



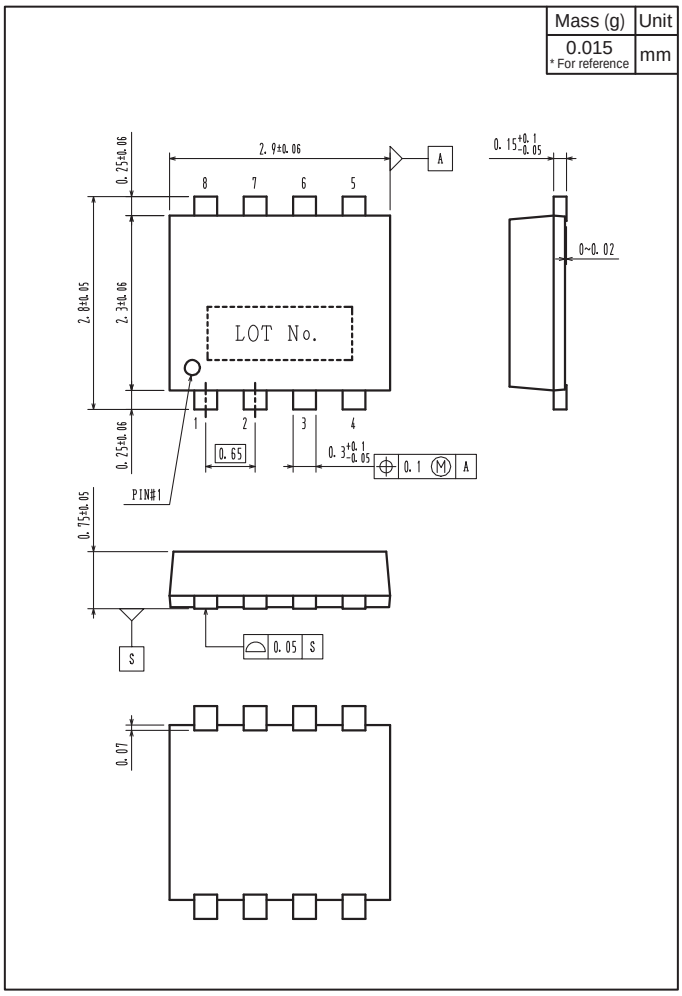
2-2. Device placement direction



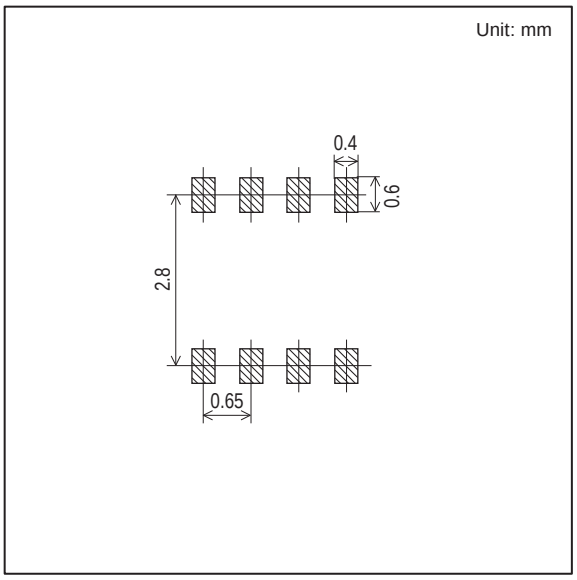
Those with oen electrode terminal on the feed hole side·····TL

Outline Drawing

SBE812-TL-E



Land Pattern Example



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