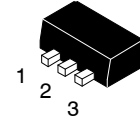


# Schottky Barrier Diode

30 V, 2 A, Low IR, Single PCP

## SB20-03P



SOT-89 / PCP-1  
CASE 419AU

### Features

- Low Forward Voltage ( $V_F$  max = 0.55 V)
- Fast Reverse Recovery Time ( $t_{rr}$  max = 20 ns)
- Low Switching Noise
- Low Leakage Current and High Reliability due to Highly Reliable Planar Structure
- These Devices are Pb-Free and are RoHS Compliant

### Applications

- High Frequency Rectification (Switching, Regulators, Converters, Choppers)

### SPECIFICATIONS

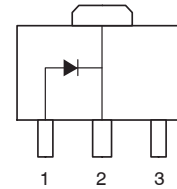
ABSOLUTE MAXIMUM RATINGS at  $T_A = 25^\circ\text{C}$

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	30	V
Nonrepetitive Peak Reverse Voltage	$V_{RSM}$	35	V
Average Output Current	$I_O$	2	A
Surge Forward Current (Note 1)	$I_{FSM}$	20	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.

1. Conditions: 50 Hz sine wave, 1 cycle

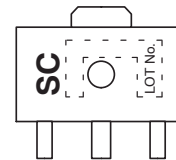
### ELECTRICAL CONNECTION



1: Anode  
2: Cathode  
3: No Contact

PCP

### MARKING DIAGRAM



### ORDERING INFORMATION

Device	Package	Shipping <sup>†</sup>
SB20-03P-TD-E	PCP (Pb-Free)	1000 / Tape & Reel

<sup>†</sup>For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, [BRD8011/D](#).

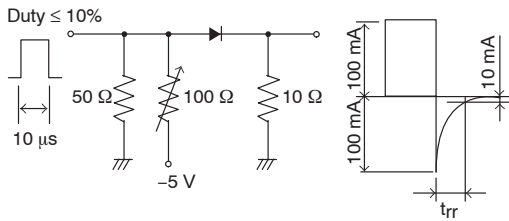
# SB20-03P

## ELECTRICAL CHARACTERISTICS at $T_A = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			Min	Typ	Max	
Reverse Voltage	$V_R$	$I_R = 500 \mu\text{A}$	30			V
Forward Voltage	$V_F$	$I_F = 2 \text{ A}$			0.55	V
Reverse Current	$I_R$	$V_R = 15 \text{ V}$			100	$\mu\text{A}$
Interterminal Capacitance	C	$V_R = 10 \text{ V}, f = 1 \text{ MHz}$		70		pF
Reverse Recovery Time	$t_{rr}$	$I_F = I_R = 100 \text{ mA}$ , See specified Test Circuit			20	ns
Thermal Resistance	$R_{th(j-a)1}$			300		$^\circ\text{C/W}$
	$R_{th(j-a)2}$	When mounted on ceramic substrate (250 mm <sup>2</sup> x 0.8 mm)		110		$^\circ\text{C/W}$

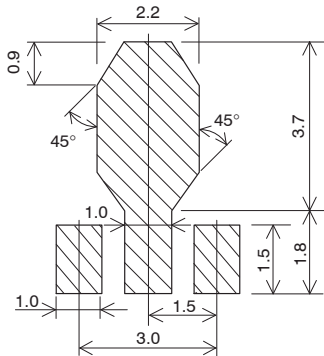
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

### $t_{rr}$ Test Circuit



### Land Pattern Example

Unit: mm



TYPICAL CHARACTERISTICS

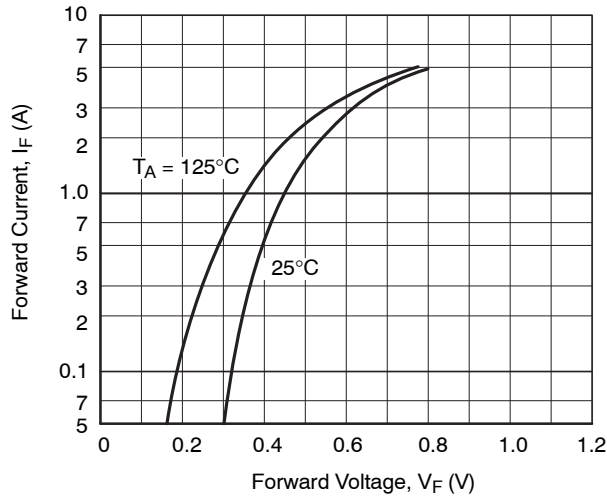


Figure 1.  $I_F - V_F$

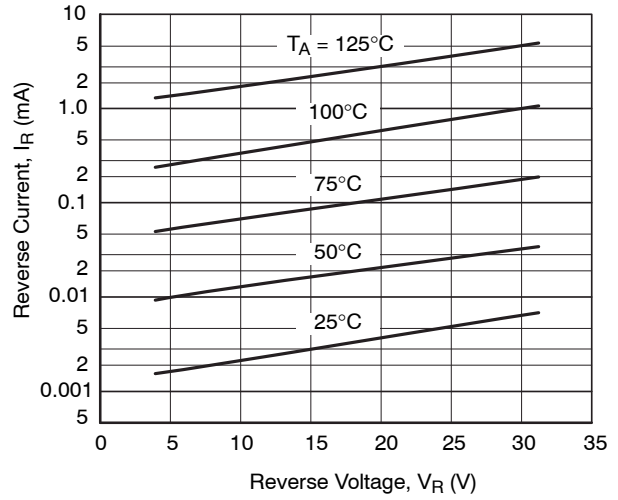


Figure 2.  $I_R - V_R$

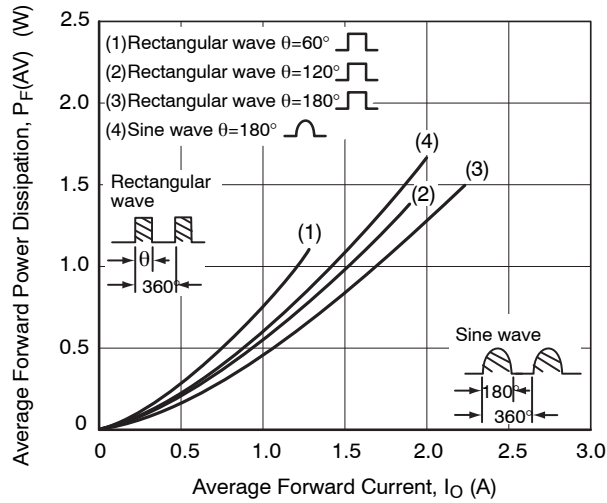


Figure 3.  $P_F(AV) - I_O$

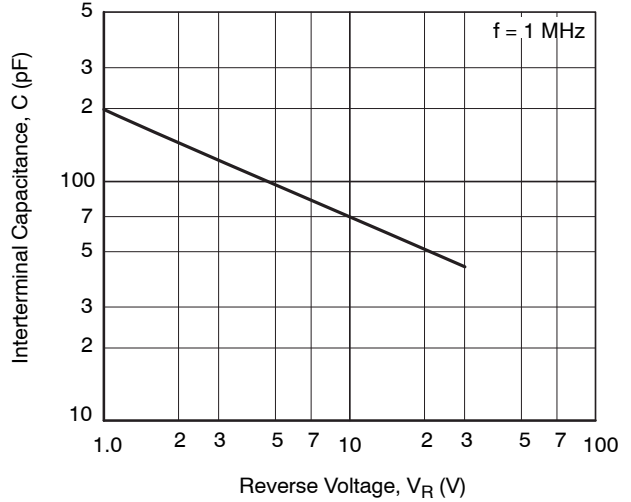


Figure 4.  $C - V_R$

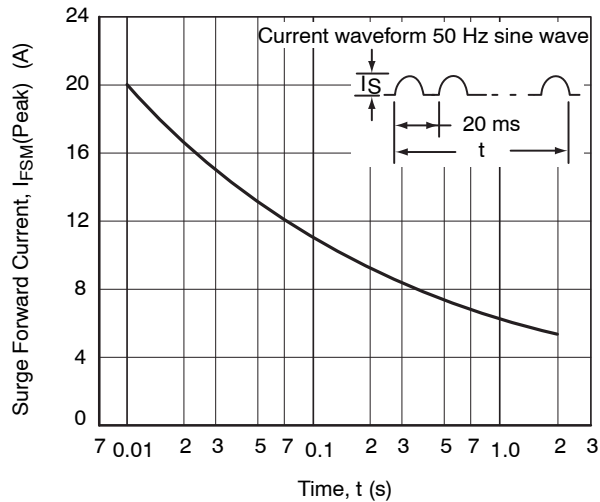


Figure 5.  $I_{FSM} - t$

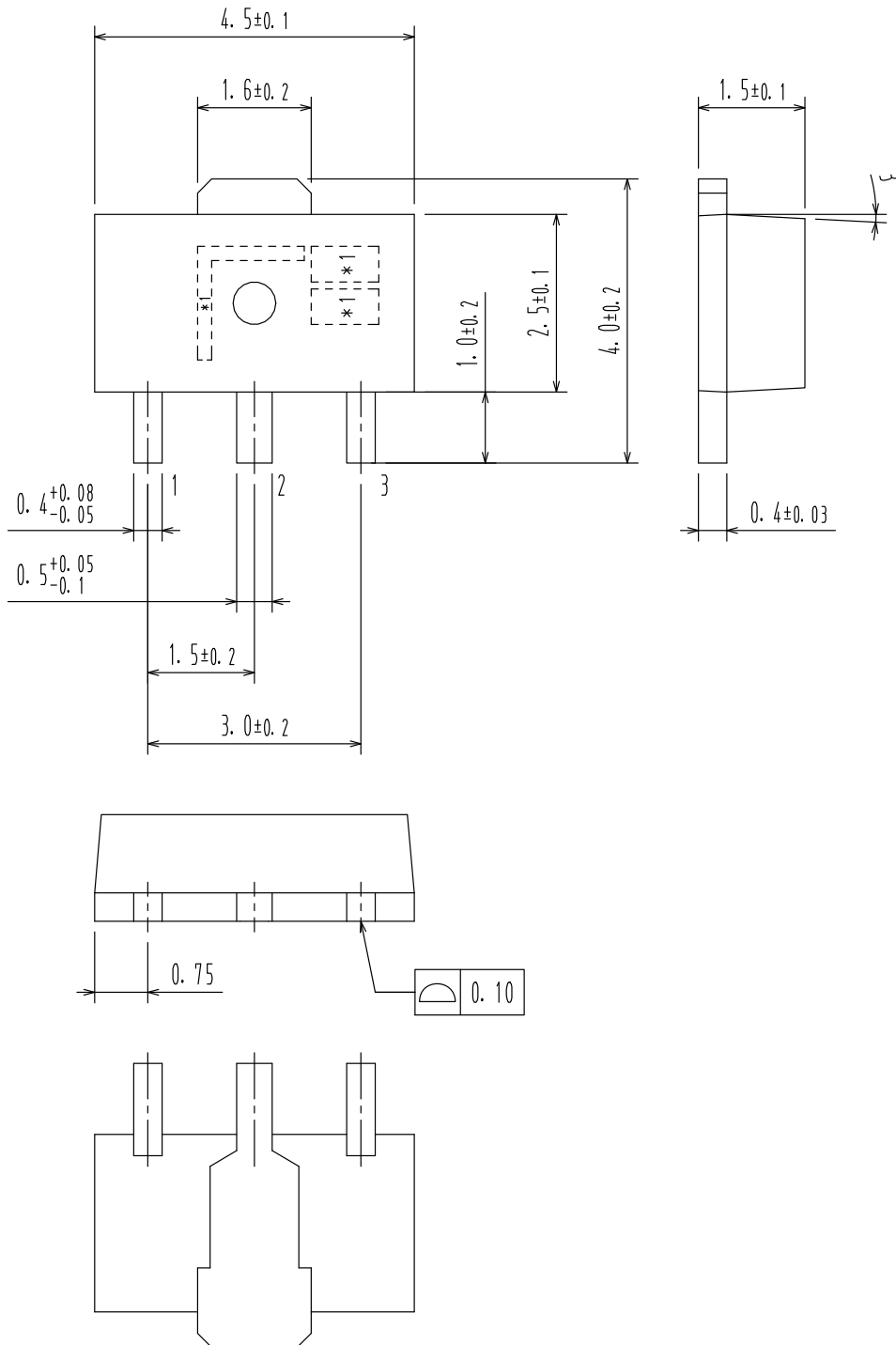
**MECHANICAL CASE OUTLINE**  
**PACKAGE DIMENSIONS**

ON Semiconductor®



**SOT-89 / PCP-1**  
**CASE 419AU**  
**ISSUE 0**

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