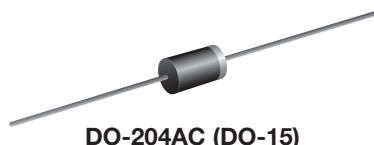




## Schottky Barrier Rectifier



DO-204AC (DO-15)

## FEATURES

- Very small conduction losses
- Extremely fast switching
- Low forward voltage drop
- High frequency operation
- 20 kV ESD capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC

RoHS  
COMPLIANT

## TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, dc-to-dc converters, and polarity protection applications.

## MECHANICAL DATA

**Case:** DO-204AC (DO-15)

Molding compound meets UL 94 V-0 flammability rating

Base P/N-E3 - RoHS compliant, commercial grade

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

**Polarity:** Color band denotes the cathode end

## PRIMARY CHARACTERISTICS

$I_{F(AV)}$	3.0 A
$V_{RRM}$	20 V to 60 V
$I_{FSM}$	100 A
$V_F$	0.50 V, 0.70 V
$T_J$ max.	125 °C, 150 °C

MAXIMUM RATINGS ( $T_A = 25$  °C unless otherwise noted)

MAXIMUM RATINGS (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	SB320S	SB330S	SB340S	SB350S	SB360S	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	50	60	V
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	35	42	V
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	50	60	V
Maximum average forward rectified current at 0.375" (9.5 mm) lead length (fig. 1)	I <sub>F(AV)</sub>	3.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	100					A
Electrostatic discharge capacitor voltage human body model air discharge: C = 100 pF, R = 1.5 kΩ	V <sub>C</sub>	20					kV
Voltage rate of change (rated V <sub>R</sub> )	dV/dt	10 000					V/μs
Operating junction temperature range	T <sub>J</sub>	- 65 to + 125			- 65 to + 150		°C
Storage temperature range	T <sub>STG</sub>	- 65 to + 150					°C

## SB320S thru SB360S

Vishay General Semiconductor



ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	SB320S	SB330S	SB340S	SB350S	SB360S	UNIT
Maximum instantaneous forward voltage	3.0 A		V <sub>F</sub> <sup>(1)</sup>	0.50			0.70		V
Maximum reverse current at rated V <sub>R</sub>		T <sub>A</sub> = 25 °C	I <sub>R</sub> <sup>(2)</sup>	0.50					mA
		T <sub>A</sub> = 100 °C		20			10		

## Notes

(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle(2) Pulse test: Pulse width  $\leq 40\text{ ms}$ 

THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	SB320S	SB330S	SB340S	SB350S	SB360S	UNIT
Typical thermal resistance	R <sub>θJA</sub> <sup>(1)</sup>	40					°C/W
	R <sub>θJL</sub> <sup>(1)</sup>	12					

## Note

(1) Thermal resistance from junction to lead vertical P.C.B. mounting, 0.500" (12.7 mm) lead length with 2.5" x 2.5" (63.5 mm x 63.5 mm) copper pad

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SB360S-E3/54	0.40	54	4000	13" diameter paper tape and reel
SB360S-E3/73	0.40	73	2000	Ammo pack packaging

## RATINGS AND CHARACTERISTICS CURVES

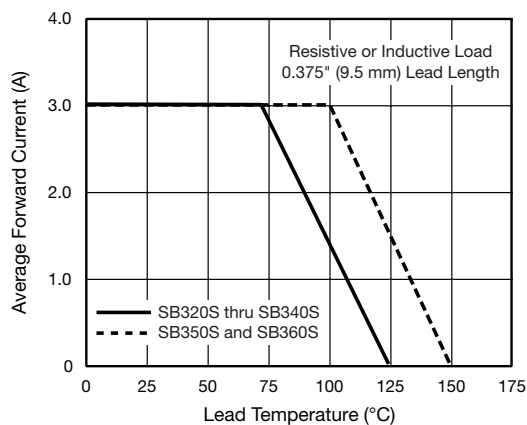
( $T_A = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

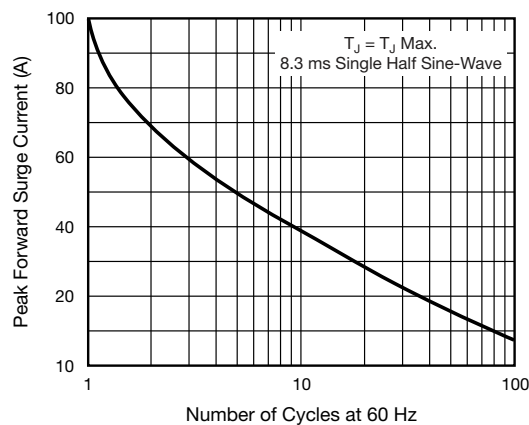


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

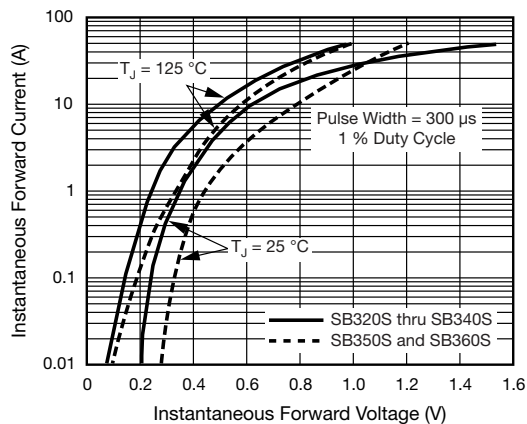


Fig. 3 - Typical Instantaneous Forward Characteristics

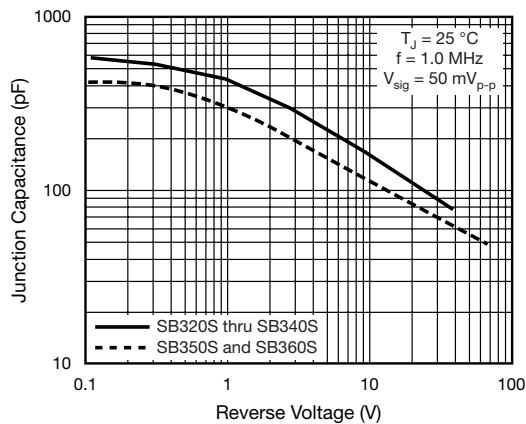


Fig. 5 - Typical Junction Capacitance

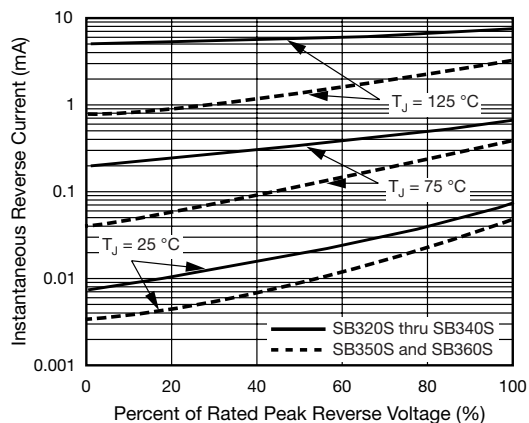


Fig. 4 - Typical Reverse Characteristics

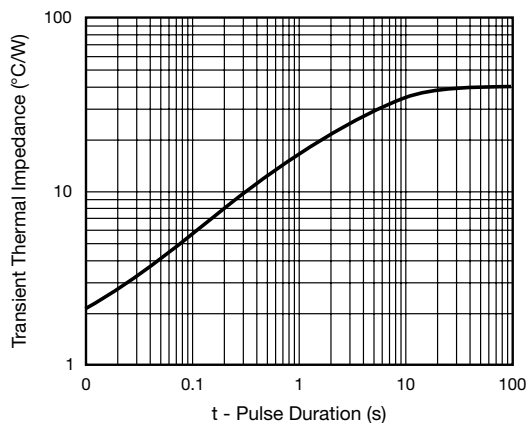
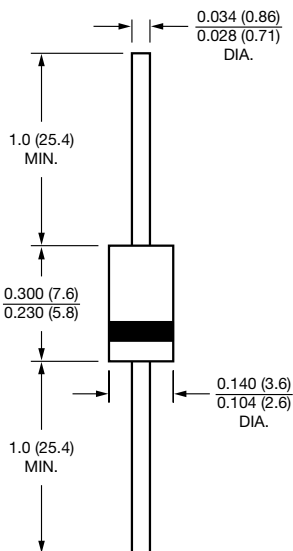


Fig. 6 - Typical Transient Thermal Impedance

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

### DO-204AC (DO-15)





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