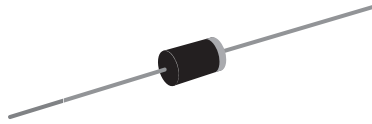


## Schottky Barrier Rectifier



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 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and 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)

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, 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
$T_J \text{ max.}$	125 °C, 150 °C

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



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 <sup>(1)</sup>	3.0 A	V <sub>F</sub>	0.50			0.70		V	
Maximum reverse current at rated V <sub>R</sub> <sup>(2)</sup>	T <sub>A</sub> = 25 °C T <sub>A</sub> = 100 °C	I <sub>R</sub>	0.50				10		mA
			20						

**Notes:**

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
- (2) Pulse test: Pulse width ≤ 40 ms

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

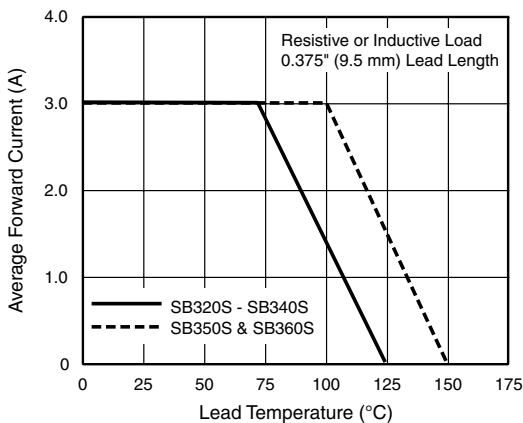


Figure 1. Forward Current Derating Curve

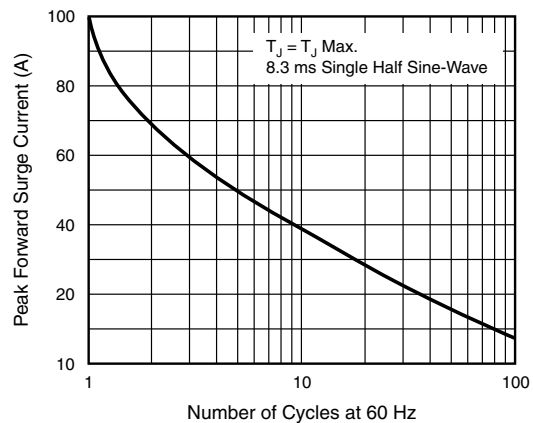


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

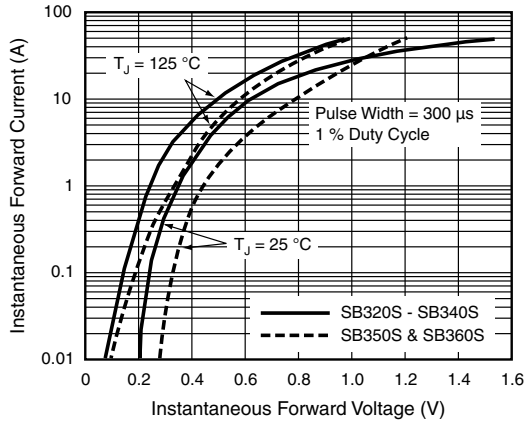


Figure 3. Typical Instantaneous Forward Characteristics

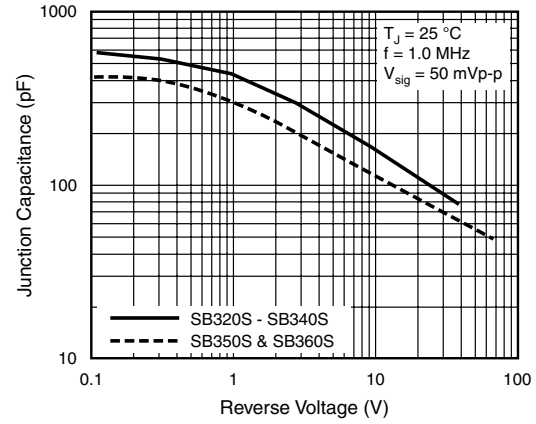


Figure 5. Typical Junction Capacitance

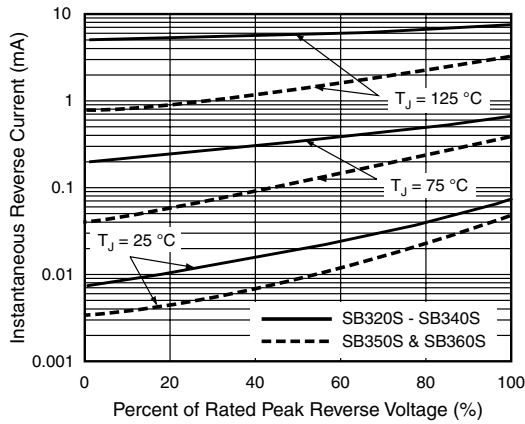


Figure 4. Typical Reverse Characteristics

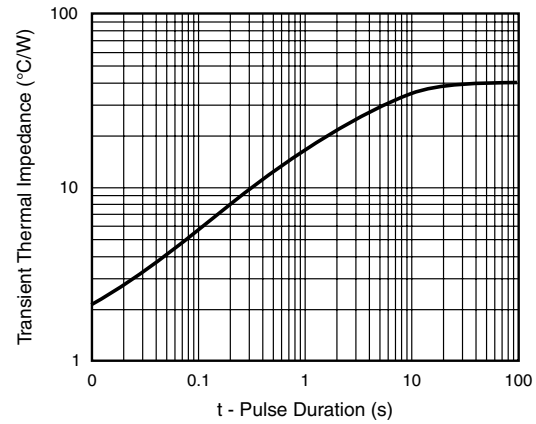
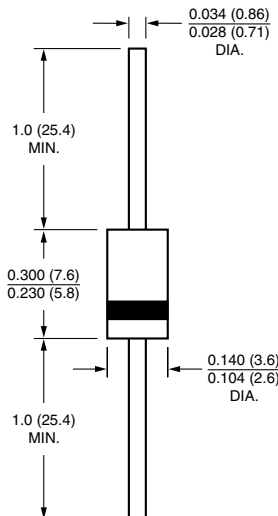


Figure 6. Typical Transient Thermal Impedance

**PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)

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





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