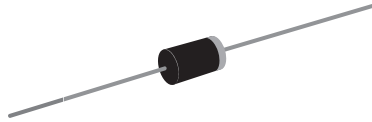


Schottky Barrier Rectifiers



DO-204AC (DO-15)

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2.0 A
V_{RRM}	20 V to 60 V
I_{FSM}	60 A
V_F	0.50 V, 0.68 V
$T_J \text{ max.}$	125 °C, 150 °C

FEATURES

- Guardring for overvoltage protection
- Very small conduction losses
- Extremely fast switching
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- 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

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)							
PARAMETER	SYMBOL	SB220	SB230	SB240	SB250	SB260	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)	$I_{F(AV)}$	2.0					A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	60					A
Maximum full load reverse current, full cycle average at $T_A = 75\text{ °C}$	$I_{R(AV)}$	30					mA
Voltage rate of change (rated V_R)	dV/dt	10 000					V/ μ s
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 _A = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	SB220	SB230	SB240	SB250	SB260	UNIT
Maximum instantaneous forward voltage ⁽¹⁾	2.0 A	V _F	0.50			0.68		V
Maximum instantaneous reverse current at rated DC blocking voltage ⁽¹⁾	T _A = 25 °C	I _R	0.50					mA
	T _A = 100 °C		15		8.0			
Typical junction capacitance		C _J	170					pF

Note:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	SB220	SB230	SB240	SB250	SB260	UNIT
Typical thermal resistance ⁽¹⁾	R _{θJA}	45					°C/W
	R _{θJL}	14					

Note:

(1) Thermal resistance junction to lead P.C.B. mounted 0.375" (9.5 mm) lead length

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SB240-E3/54	0.398	54	4000	13" diameter paper tape and reel
SB240-E3/73	0.398	73	2000	Ammo pack packaging

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

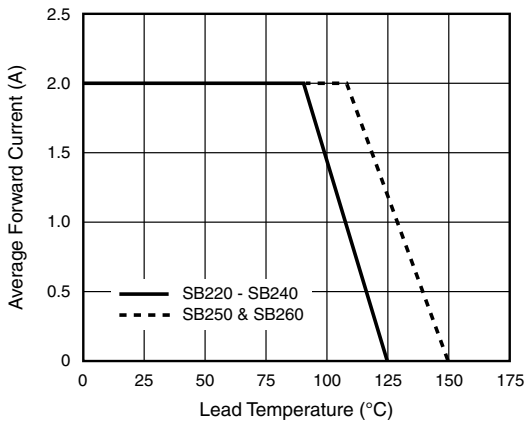


Figure 1. Forward Current Derating Curve

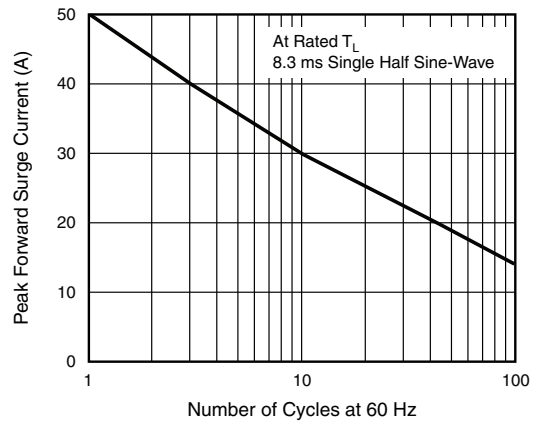


Figure 2. Maximum Non-Repetitive Surge Current

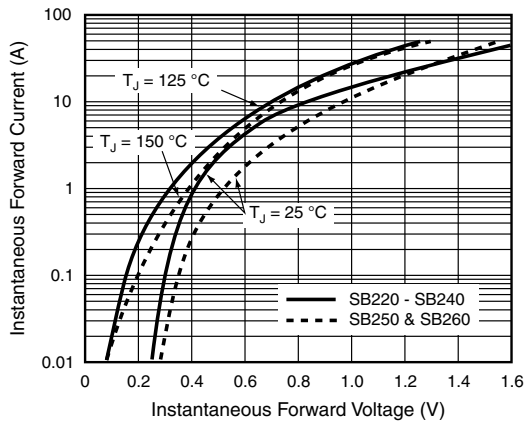


Figure 3. Typical Instantaneous Forward Characteristics

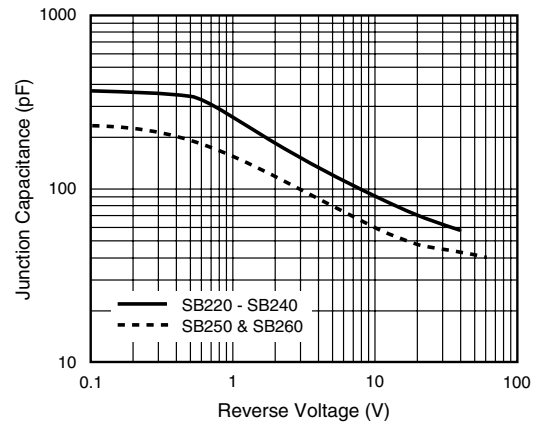


Figure 5. Typical Junction Capacitance

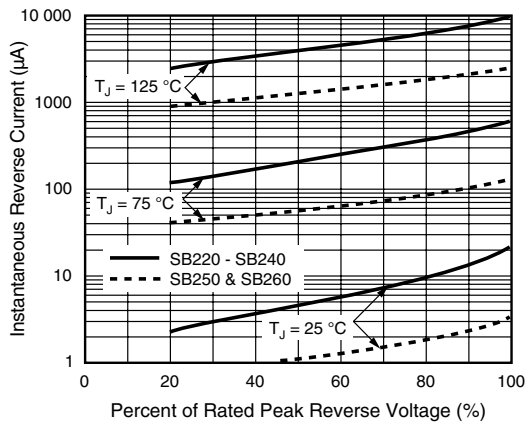


Figure 4. Typical Reverse Characteristics

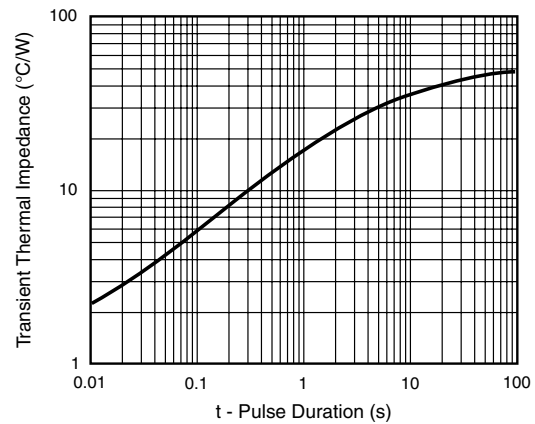
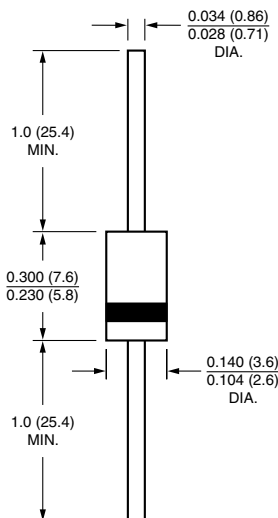


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AC (DO-15)





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