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February 2015



## SB1245

### Ultra Low VF Schottky Barrier Rectifier

#### Applications

- This device is designed for low voltage, high frequency inverters, free-wheeling and polarity protection applications.
- This is also designed as bypass diode for solar modules.

#### Features

- UL Flammability Classification 94V-O
- Environment Standards MIL-S-19500/228 Compliant
- Low Power Loss, High Efficiency
- High Surge Capacity
- Pb-free, RoHS Compliant



DO-201AD  
COLOR BAND DENOTES CATHODE

#### Ordering Information

Part Number	Top Mark	Package	Packing Method
SB1245	SB1245	DO-201AD	Tape and Reel

#### Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$V_{RRM}$	Maximum Repetitive Reverse Voltage	45	V
$V_{RMS}$	Maximum RMS Voltage	31	V
$V_{DC}$	Maximum DC Blocking Voltage	45	V
$I_{F(AV)}$	Maximum Average Forward Current	12	A
$I_{FSM}$	Peak Forward Surge Current, 8.3 ms Single Half-Sine-Wave, Superimposed on Rated Load (JEDEC Method)	150	A
$V_F$	Maximum Forward Voltage at $I_F = 12\text{ A}$	0.55	V
$I_R$	Maximum DC Reverse Current at Rated $V_{DC}$	$T_J = 25^\circ\text{C}$	mA
		$T_J = 100^\circ\text{C}$	
$I^2t$	Rating for Fusing ( $t < 8.3\text{ ms}$ )	3.7	$\text{A}^2\text{sec}$
$T_J$	Operating Junction Temperature Range	-55 to +150	$^\circ\text{C}$
	Operating Junction Temperature Range, In DC Forward Mode	-55 to +200	
$T_{STG}$	Storage Temperature Range	-55 to +175	$^\circ\text{C}$

**Thermal Characteristics<sup>(1)</sup>**

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$R_{\theta JL}$	Typical Thermal Resistance, Junction-to-Lead	10.5	$^\circ\text{C/W}$

**Note:**

1. Temperature read point using thermocouple is at 10 mm from case edge.

## Typical Performance Characteristics

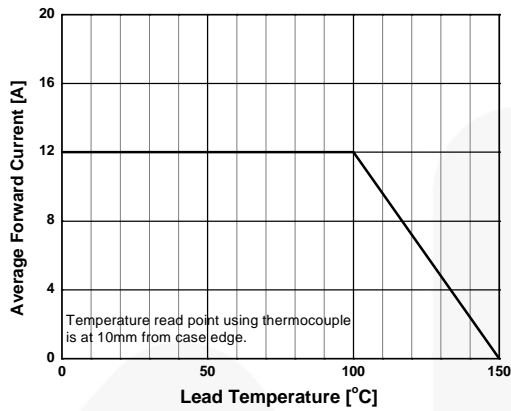


Figure 1a. Average Forward Current Derating Curve

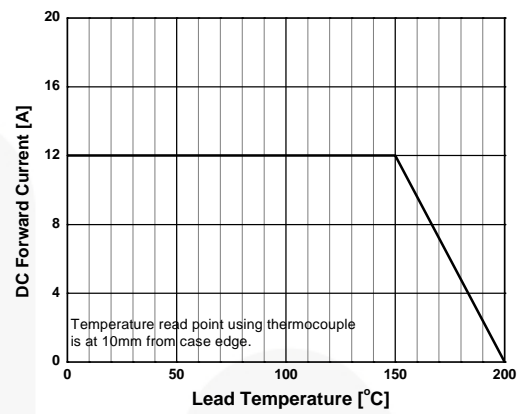


Figure 1b. DC Forward Current Derating Curve

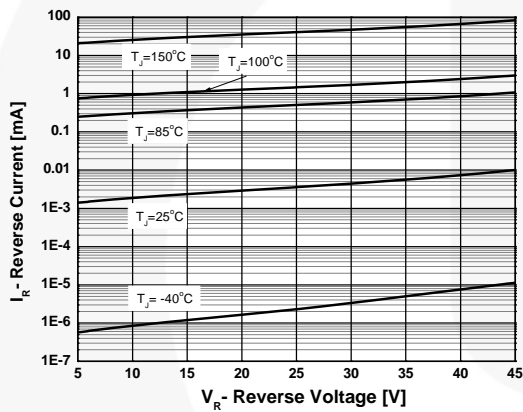


Figure 2. Reverse Current vs. Reverse Voltage

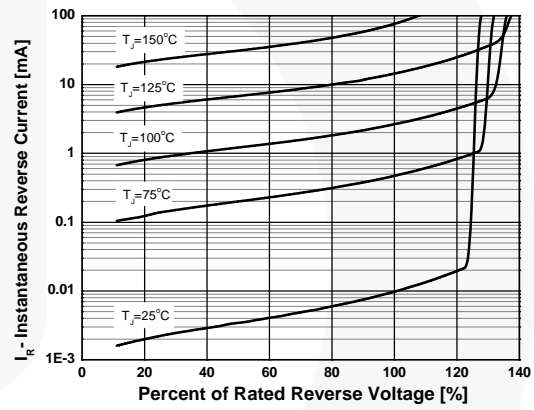


Figure 3. Typical Reverse Characteristics

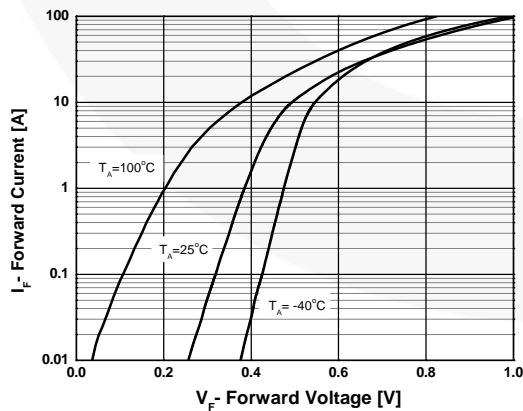


Figure 4. Forward Voltage vs. Forward Current

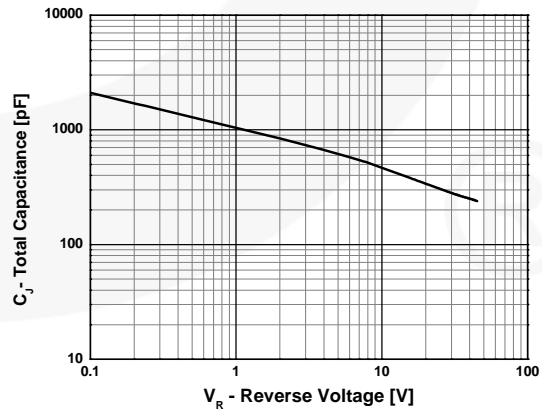
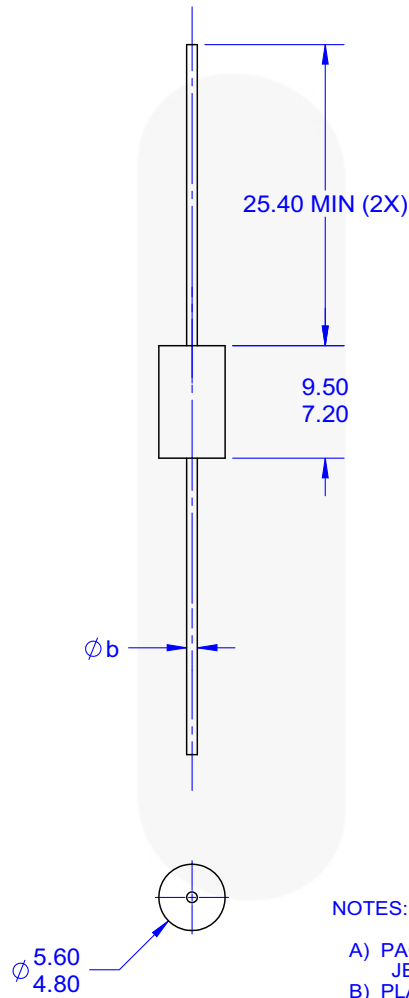


Figure 5. Typical Junction Capacitance

# Physical Dimensions



NOTES: UNLESS OTHERWISE SPECIFIED

- A) PACKAGE STANDARD REFERENCE:  
JEDEC DO-201 VARIATION AD.
- B) PLASTIC PACKAGE BODY.
- D) ALL DIMENSIONS ARE IN MILLIMETERS.
- E) Ø b DIMENSION REPRESENT LIKE BELOW:  
OPTION AD = 1.20MIN TO 1.30MAX  
OPTION AE = 0.94MIN TO 1.07MAX
- E) DRAWING FILE NAME: DO201AREV1

**Figure 6. AXIAL LEADED, JEDEC DO201, OPTION AD**



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No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
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