

# 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

### Absolute Maximum Ratings \* $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{RRM}$	Maximum Recurrent Peak 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 8.3ms 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 $V_{DC}$ $T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$	0.1 10	mA
$I^2t$	Rating for Fusing ( $t<8.3\text{ms}$ )	3.7	$\text{A}^2\text{sec}$
$T_J$	Operating Junction Temperature Range In DC Forward Mode	-55 to +150 -55 to +200	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-55 to +175	$^\circ\text{C}$

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

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

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

### Typical Performance Characteristics

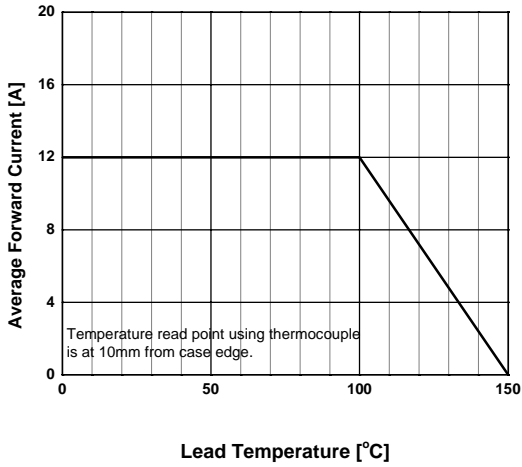


Figure 1a. Average Forward Current Derating Curve

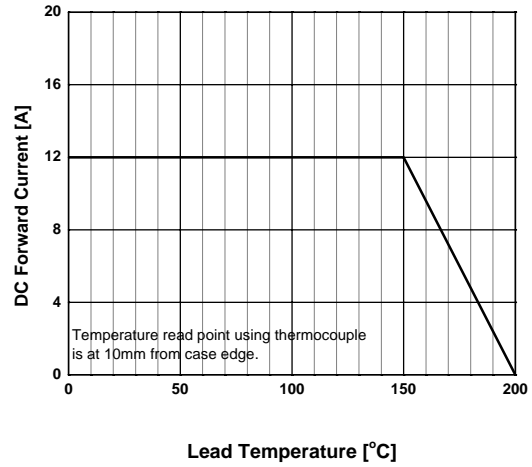


Figure 1b. DC Forward Current Derating Curve

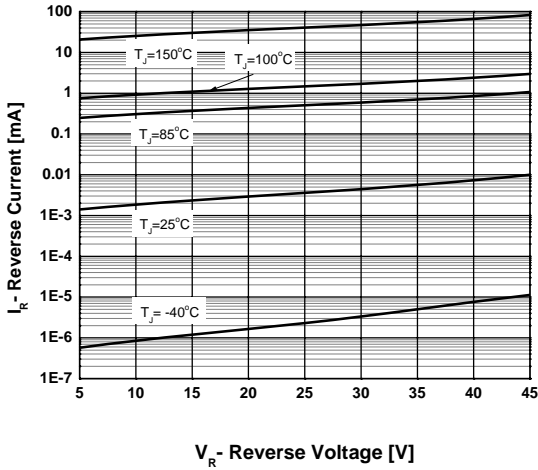


Figure 2. Reverse Current vs. Reverse Voltage

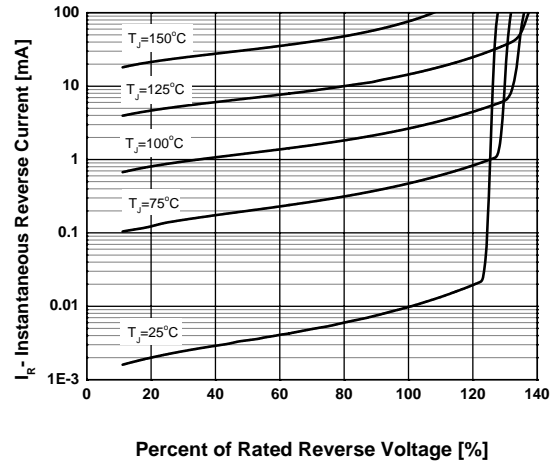


Figure 3. Typical Reverse Characteristics

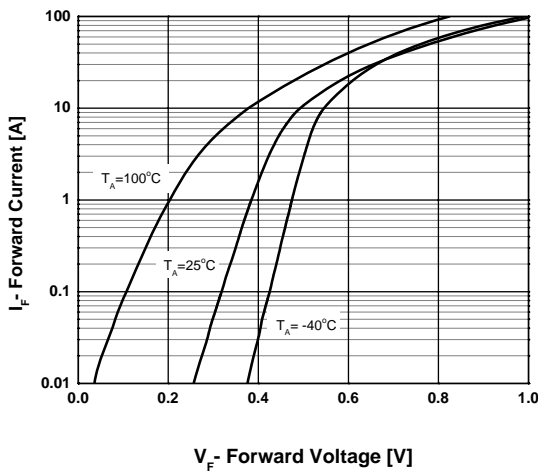


Figure 4. Forward Voltage vs. Forward Current

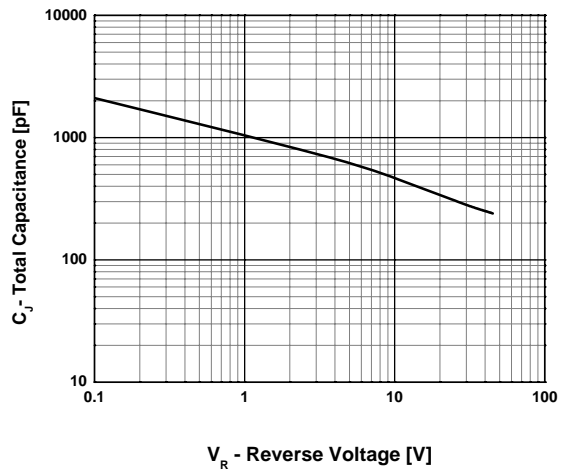
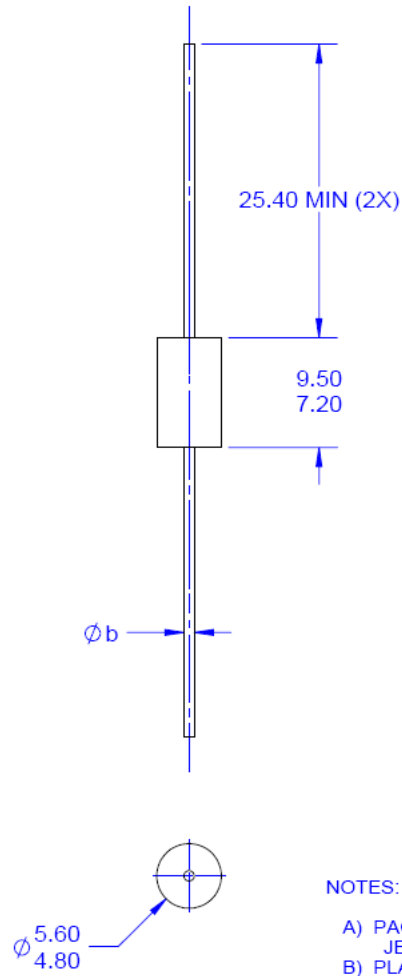


Figure 5. Typical Junction Capacitance

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



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