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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

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°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 A		0.55	V
I_R	Maximum DC Reverse Current at Rated V_{DC}	T_J = 25°C	0.1	mA
		T_J = 100°C	10	
I^2t	Rating for Fusing (t<8.3 ms)		3.7	A^2sec
T_J	Operating Junction Temperature Range		-55 to +150	°C
	Operating Junction Temperature Range, In DC Forward Mode		-55 to +200	
T_{STG}	Storage Temperature Range		-55 to +175	°C

Thermal Characteristics[1]

Values are at T_A = 25°C unless otherwise noted.

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

Note:

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

Typical Performance Characteristics

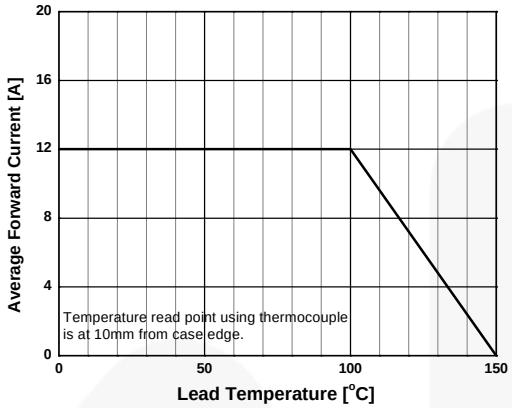


Figure 1a. Average Forward Current Derating Curve

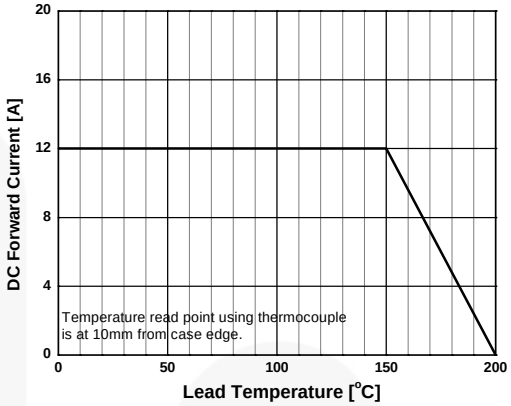


Figure 1b. DC Forward Current Derating Curve

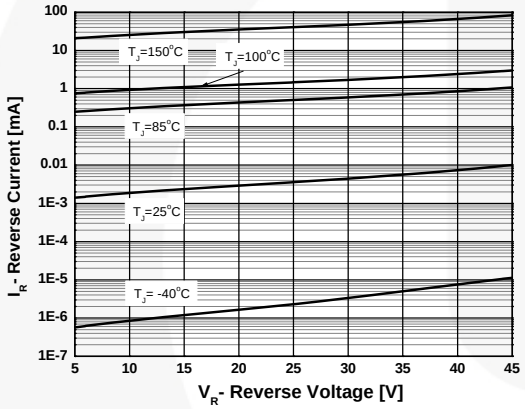


Figure 2. Reverse Current vs. Reverse Voltage

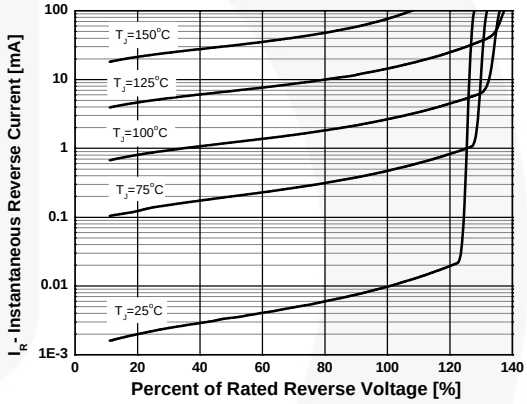


Figure 3. Typical Reverse Characteristics

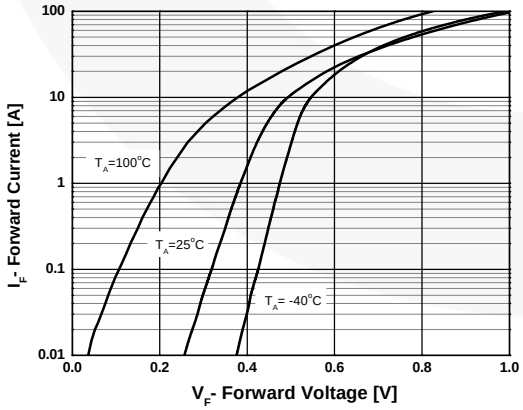


Figure 4. Forward Voltage vs. Forward Current

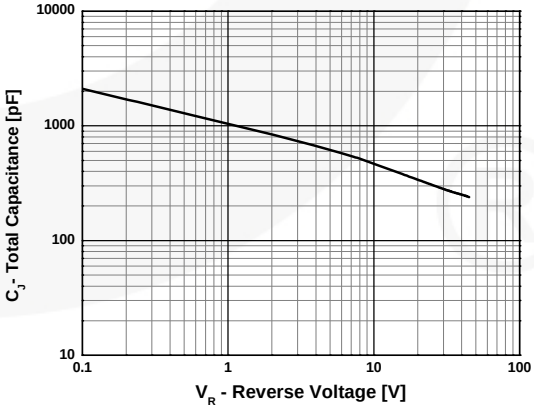
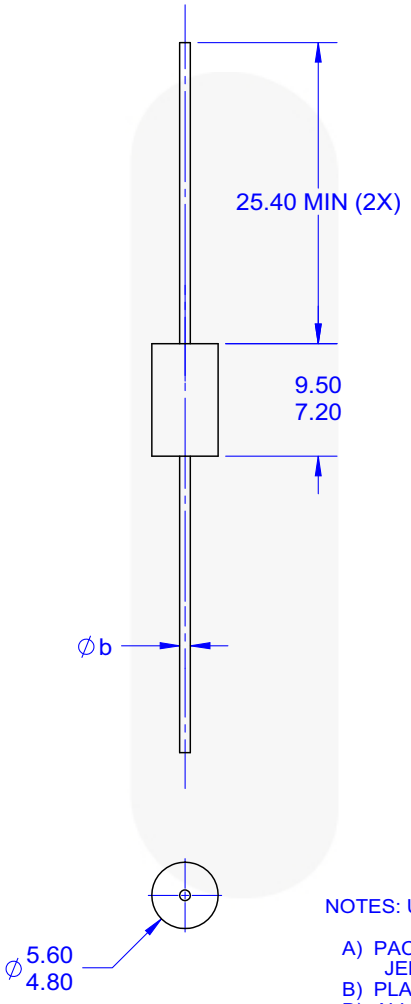


Figure 5. Typical Junction Capacitance

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) ∅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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Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative / In Design	Datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
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.
Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

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