

# Schottky Barrier Rectifier

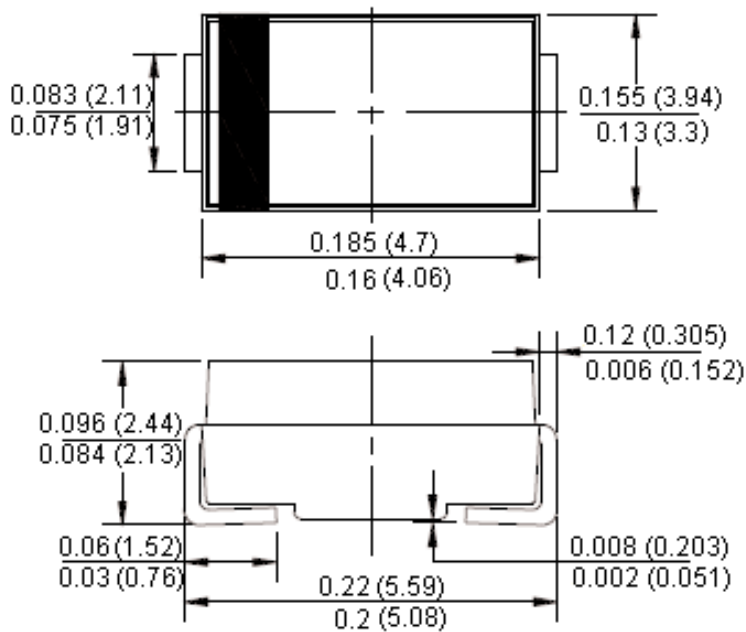


## Features:

- For surface mounted applications.
- Metal-Semiconductor junction with guarding.
- Epitaxial construction.
- Very low forward voltage drop.
- High current capability.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

Reverse Voltage - 20 V  
Forward Current - 1 Ampere

## SMB



Dimensions : Inches (Millimetres)

## Mechanical Data

|                   |                                |
|-------------------|--------------------------------|
| Case              | : Moulded plastic.             |
| Polarity          | : Colour band denotes cathode. |
| Weight            | : 0.003 oz, 0.093 g.           |
| Mounting position | : Any.                         |

# Schottky Barrier Rectifier



## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

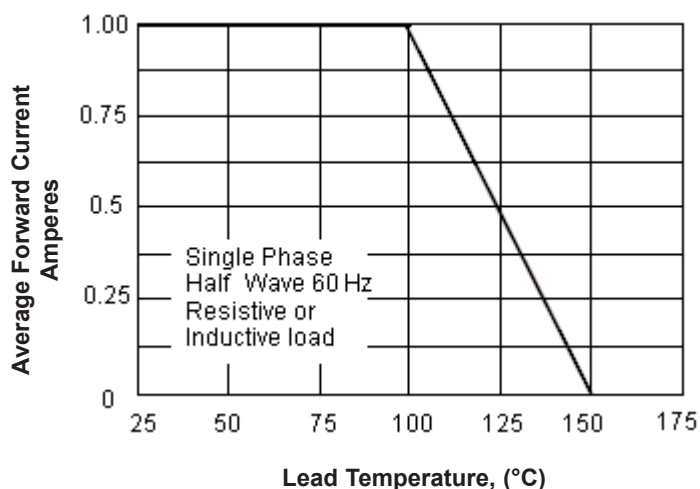
| Characteristics                                                                                                     | Symbol          | SS12B       | Unit                      |
|---------------------------------------------------------------------------------------------------------------------|-----------------|-------------|---------------------------|
| Maximum Recurrent Peak Reverse Voltage                                                                              | $V_{RRM}$       | 20          | V                         |
| Maximum RMS Voltage                                                                                                 | $V_{RMS}$       | 14          |                           |
| Maximum DC Blocking Voltage                                                                                         | $V_{DC}$        | 20          |                           |
| Maximum Average Forward Rectified Current at $T_L = 100^\circ\text{C}$                                              | $I_{(AV)}$      | 1           | A                         |
| Peak Forward Surge Current<br>8.3 ms Single Half Sine-wave<br>Super Imposed on Rated Load (JEDEC Method)            | $I_{FSM}$       | 40          |                           |
| Maximum Forward Voltage at 1 A dc                                                                                   | $V_F$           | 0.45        | V                         |
| Maximum DC Reverse Current at $T_J = 25^\circ\text{C}$<br>at Rated DC Blocking Voltage at $T_J = 100^\circ\text{C}$ | $I_R$           | 1<br>10     | mA                        |
| Typical Junction Capacitance (Note 1)                                                                               | $C_J$           | 110         | pF                        |
| Typical Thermal Resistance (Note 2)                                                                                 | $R_{\theta JL}$ | 20          | $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range                                                                                         | $T_J$           | -55 to +150 | $^\circ\text{C}$          |
| Storage Temperature Range                                                                                           | $T_{STG}$       |             |                           |

**Notes :** 1. Measured at 1 MHz and applied reverse voltage of 4 V dc.

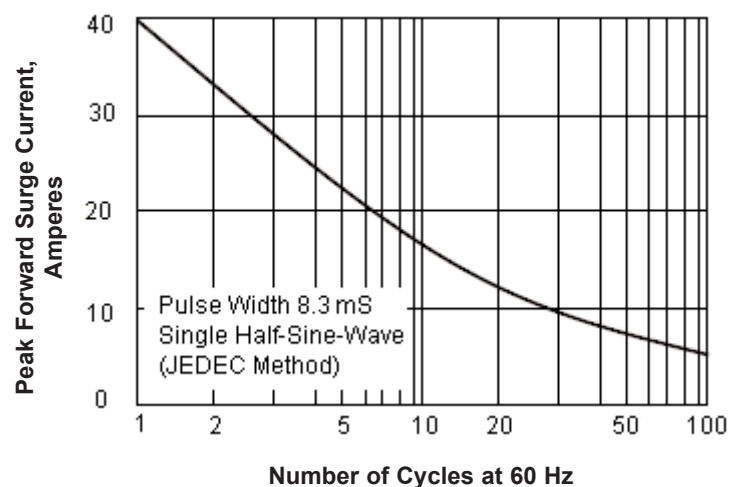
2. Thermal resistance junction to lead.

## Rating and Characteristics Curves

Forward Current Derating Curve



Maximum Non-Repetitive Surge Current

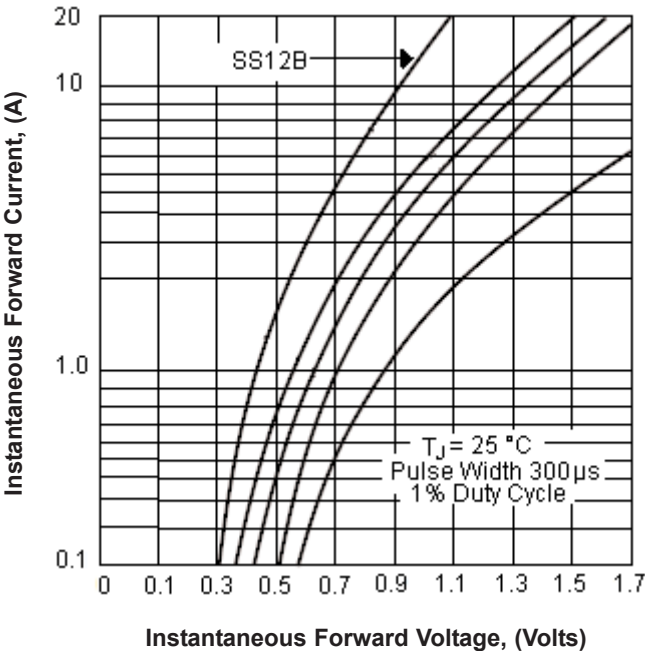


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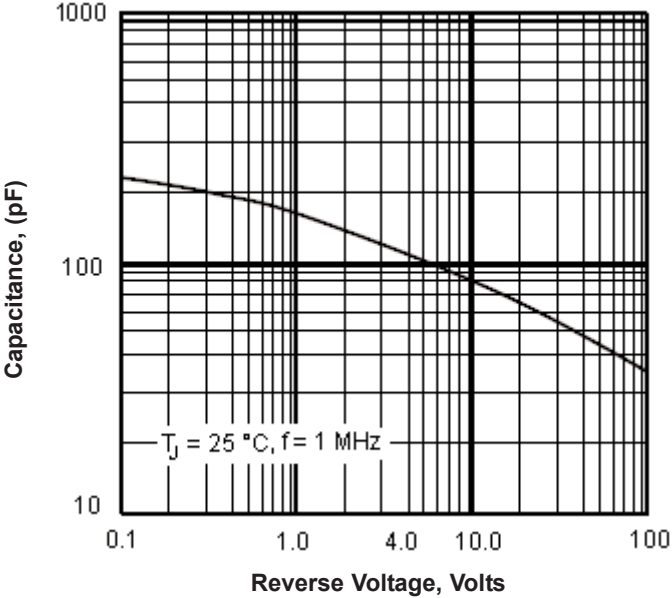


## Rating and Characteristics Curves

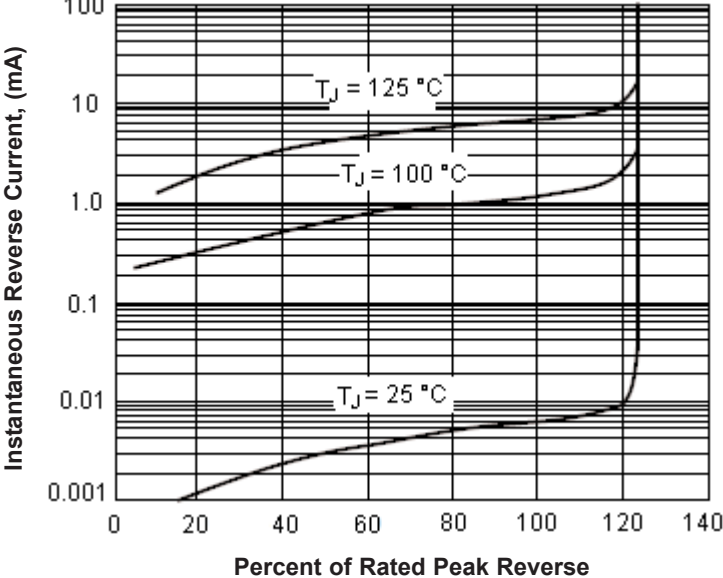
Typical Forward Characteristics



Typical Junction Capacitance



Typical Reverse Characteristics



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