

# Schottky Barrier Diodes

SemiGen's Silicon Schottky Diodes are designed for applications through 40Ghz. The special process technology utilizes various metal schemes to provide excellent performance of Low, Medium, and High Barrier applications. The end result is a low resistance diode with tightly controlled capacitance which allows for optimum performance. Low conversation loss and superior TSS make these diodes ideal for detector / mixer applications with frequency ranges from S band to Ka band as well as modulators, lower power limiters and high speed switches.

## Features:

- Multi-junction Chips
- Low 1/F Noise
- Small Junction Capacitance

## Applications:

For use in mixers, detectors, doublers, and modulators.

## Packages:

Chip, Glass, Ceramic, Beam Lead

| Low Barrier Schottky Diodes                     |                                         |                                                     |                                              |                                              |             |
|-------------------------------------------------|-----------------------------------------|-----------------------------------------------------|----------------------------------------------|----------------------------------------------|-------------|
| Breakdown Voltage<br>@ 10 $\mu$ A<br>MIN<br>(V) | Forward Voltage<br>@ 1 mA<br>MAX<br>(V) | Junction Capacitance<br>@ 0 Vdc 1 Mhz<br>TYP<br>(V) | Series Resistance<br>@ 5 mM<br>TYP<br>(Ohms) | Tangential Signal Sensitivity<br>TYP<br>(dB) | Part Number |
| 3.0                                             | 0.250                                   | 0.14                                                | 20.0                                         | -55                                          | SLB100      |
| 3.0                                             | 0.280                                   | 0.20                                                | 20.0                                         | -52                                          | SLB101      |
| 3.0                                             | 0.300                                   | 0.12                                                | 20.0                                         | -50                                          | SLB102      |
| 3.0                                             | 0.320                                   | 0.14                                                | 20.0                                         | -48                                          | SLB103      |
| 3.0                                             | 0.250                                   | 0.15                                                | 20.0                                         | -55                                          | SLB104      |
| 3.0                                             | 0.280                                   | 0.15                                                | 20.0                                         | -52                                          | SLB105      |
| 3.0                                             | 0.300                                   | 0.12                                                | 20.0                                         | -50                                          | SLB106      |
| 3.0                                             | 0.320                                   | 0.14                                                | 20.0                                         | -48                                          | SLB107      |
| 3.0                                             | 0.250                                   | 0.14                                                | 20.0                                         | -55                                          | SLB108      |
| 3.0                                             | 0.280                                   | 0.15                                                | 20.0                                         | -52                                          | SLB109      |
| 3.0                                             | 0.300                                   | 0.14                                                | 20.0                                         | -50                                          | SLB110      |
| 3.0                                             | 0.320                                   | 0.25                                                | 20.0                                         | -48                                          | SLB111      |
| 4.0                                             | 0.250                                   | 0.20                                                | 20.0                                         | -55                                          | SLB112      |
| 4.0                                             | 0.280                                   | 0.15                                                | 20.0                                         | -52                                          | SLB113      |
| 4.0                                             | 0.300                                   | 0.12                                                | 20.0                                         | -50                                          | SLB114      |
| 4.0                                             | 0.320                                   | 0.15                                                | 0.35                                         | -48                                          | SLB115      |

| Medium Barrier Schottky Diodes                  |                                         |                                                     |                                              |                                              |             |
|-------------------------------------------------|-----------------------------------------|-----------------------------------------------------|----------------------------------------------|----------------------------------------------|-------------|
| Breakdown Voltage<br>@ 10 $\mu$ A<br>MIN<br>(V) | Forward Voltage<br>@ 1 mA<br>MAX<br>(V) | Junction Capacitance<br>@ 0 Vdc 1 Mhz<br>TYP<br>(V) | Series Resistance<br>@ 5 mM<br>TYP<br>(Ohms) | Tangential Signal Sensitivity<br>TYP<br>(dB) | Part Number |
| 3.0                                             | 0.400                                   | 0.14                                                | 20.0                                         | -52                                          | SMB200      |
| 3.0                                             | 0.400                                   | 0.20                                                | 20.0                                         | -50                                          | SMB201      |
| 3.0                                             | 0.400                                   | 0.12                                                | 20.0                                         | -48                                          | SMB202      |
| 3.0                                             | 0.400                                   | 0.14                                                | 20.0                                         | -45                                          | SMB203      |
| 4.0                                             | 0.425                                   | 0.15                                                | 20.0                                         | -52                                          | SMB204      |
| 4.0                                             | 0.425                                   | 0.15                                                | 20.0                                         | -50                                          | SMB205      |
| 4.0                                             | 0.425                                   | 0.12                                                | 20.0                                         | -48                                          | SMB206      |
| 4.0                                             | 0.425                                   | 0.14                                                | 20.0                                         | -45                                          | SMB207      |
| 4.0                                             | 0.450                                   | 0.14                                                | 20.0                                         | -52                                          | SMB208      |
| 4.0                                             | 0.450                                   | 0.15                                                | 20.0                                         | -50                                          | SMB209      |
| 5.0                                             | 0.450                                   | 0.14                                                | 20.0                                         | -48                                          | SMB210      |
| 5.0                                             | 0.450                                   | 0.25                                                | 20.0                                         | -45                                          | SMB211      |
| 5.0                                             | 0.475                                   | 0.21                                                | 20.0                                         | -52                                          | SMB212      |
| 5.0                                             | 0.475                                   | 0.15                                                | 20.0                                         | -50                                          | SMB213      |
| 5.0                                             | 0.475                                   | 0.12                                                | 20.0                                         | -48                                          | SMB214      |
| 5.0                                             | 0.475                                   | 0.15                                                | 20.0                                         | -45                                          | SMB215      |

(ES) Equipements Scientifiques SA - Département RF & Hyperfréquence - 127 rue de Buzenval BP 26 - 92380 Garches  
Tél. 01 47 95 99 60 - Fax. 01 47 01 16 22 - e-mail: [hyper@es-france.com](mailto:hyper@es-france.com) - Site Web: [www.es-france.com](http://www.es-france.com)

# Schottky Barrier Diodes

| High Barrier Schottky Diodes                    |                                         |                                                     |                                              |                                              |             |
|-------------------------------------------------|-----------------------------------------|-----------------------------------------------------|----------------------------------------------|----------------------------------------------|-------------|
| Breakdown Voltage<br>@ 10 $\mu$ A<br>MIN<br>(V) | Forward Voltage<br>@ 1 mA<br>TYP<br>(V) | Junction Capacitance<br>@ 0 Vdc 1 Mhz<br>TYP<br>(V) | Series Resistance<br>@ 5 mM<br>TYP<br>(Ohms) | Tangential Signal Sensitivity<br>TYP<br>(dB) | Part Number |
| 5.0                                             | 0.500                                   | 0.14                                                | 25.0                                         | -52                                          | SHB300      |
| 5.0                                             | 0.500                                   | 0.20                                                | 25.0                                         | -50                                          | SHB301      |
| 5.0                                             | 0.500                                   | 0.12                                                | 25.0                                         | -48                                          | SHB302      |
| 5.0                                             | 0.500                                   | 0.14                                                | 25.0                                         | -45                                          | SHB303      |
| 5.0                                             | 0.525                                   | 0.15                                                | 25.0                                         | -52                                          | SHB304      |
| 5.0                                             | 0.525                                   | 0.15                                                | 25.0                                         | -50                                          | SHB305      |
| 5.0                                             | 0.525                                   | 0.12                                                | 25.0                                         | -48                                          | SHB306      |
| 5.0                                             | 0.525                                   | 0.14                                                | 25.0                                         | -45                                          | SHB307      |
| 6.0                                             | 0.550                                   | 0.14                                                | 25.0                                         | -52                                          | SHB308      |
| 6.0                                             | 0.550                                   | 0.15                                                | 25.0                                         | -50                                          | SHB309      |
| 6.0                                             | 0.550                                   | 0.14                                                | 25.0                                         | -48                                          | SHB310      |
| 6.0                                             | 0.550                                   | 0.25                                                | 25.0                                         | -45                                          | SHB311      |
| 6.0                                             | 0.600                                   | 0.21                                                | 25.0                                         | -48                                          | SHB312      |
| 6.0                                             | 0.600                                   | 0.15                                                | 25.0                                         | -45                                          | SHB313      |
| 6.0                                             | 0.600                                   | 0.12                                                | 25.0                                         | -42                                          | SHB314      |
| 6.0                                             | 0.600                                   | 0.15                                                | 25.0                                         | -40                                          | SHB315      |

| Maximum Ratings                     |                     |                           |
|-------------------------------------|---------------------|---------------------------|
| Operating Temperature               | Storage Temperature | Power Dissipation @ 25° C |
| -55° C to +150° C                   | -65° C to +200° C   | 250 mW                    |
| (derate linearly to zero at 150° C) |                     |                           |



(ES) Equipements Scientifiques SA - Département RF & Hyperfréquence - 127 rue de Buzenval BP 26 - 92380 Garches  
 Tél. 01 47 95 99 60 - Fax. 01 47 01 16 22 - e-mail: [hyper@es-france.com](mailto:hyper@es-france.com) - Site VWeb: [www.es-france.com](http://www.es-france.com)