



**Solid State Devices, Inc.**

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**SGB10UFSMS  
 thru  
 SGB35UFSMS**

**60 mAMP  
 1000-3500 VOLTS  
 60 nsec  
 HIGH VOLTAGE  
 RECTIFIER**

- FEATURES:**
- Ultra Fast Recovery: 60 nsec Maximum
  - PIV to 3500 Volts
  - Hermetically Sealed
  - Void-Free Construction
  - Metallurgically Bonded
  - 175°C Maximum Operating Temperature
  - Micro Miniature Package
  - TX, TXV, and Space Level Screening Available<sup>2/</sup>

**Designer's Data Sheet**

**Part Number / Ordering Information**<sup>1/</sup>

SGB \_ UF SMS \_

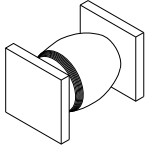
- Screening<sup>2/</sup> = None  
 TX = TX Level  
 TXV = TXV Level  
 S = S Level
- Package  
 SMS = Surface Mount Square Tab
- Recovery Time  
 UF = Ultra Fast
- Voltage  
 10 = 1000 V  
 15 = 1500 V  
 20 = 2000 V  
 25 = 2500 V  
 30 = 3000 V  
 35 = 3500 V

**ELECTRICAL CHARACTERISTICS**

| Part Number | Peak Inverse Voltage | Average Rectified Current |       | Maximum Reverse Current |       | Maximum Forward Voltage      | Maximum Surge Current (1 Cycle) <sup>9/</sup> | Maximum Reverse Recovery Time | Maximum Junction Capacitance | Typical Thermal Impedance |
|-------------|----------------------|---------------------------|-------|-------------------------|-------|------------------------------|---|-------------------------------|------------------------------|---------------------------|
|             |                      | mA                        |       | µA                      |       |                              |   |                               |                              |                           |
| Symbol      | PIV                  | I <sub>0</sub>            |       | I <sub>R@PIV</sub>      |       | V <sub>F</sub> <sup>4/</sup> | I <sub>FSM</sub>                              | t <sub>RR</sub> <sup>2/</sup> | C <sub>J</sub>               | θ <sub>JE</sub>           |
| Units       | Volts                | mA                        |       | µA                      |       | Volts                        | Amps  | nsec                          | pF                           | °C/W                      |
| Conditions  |                      | 25°C                      | 100°C | 25°C                    | 100°C | 25°C                         | 25°C  | 25°C                          | VR = 100V<br>fT = 1MHZ       |                           |
| SGB10UFSMS  | 1000                 | 60                        | 50    | 0.1                     | 10    | 9.5                          | 5   | 60                            | 1.0                          | 165                       |
| SGB15UFSMS  | 1500                 | 60                        | 50    | 0.1                     | 10    | 9.5                          | 5   | 60                            | 1.0                          | 165                       |
| SGB20UFSMS  | 2000                 | 60                        | 50    | 0.1                     | 10    | 9.5                          | 5   | 60                            | 1.0                          | 165                       |
| SGB25UFSMS  | 2500                 | 60                        | 50    | 0.1                     | 10    | 9.5                          | 5   | 60                            | 1.0                          | 165                       |
| SGB30UFSMS  | 3000                 | 60                        | 50    | 0.1                     | 10    | 9.5                          | 5   | 60                            | 1.0                          | 165                       |
| SGB35UFSMS  | 3500                 | 60                        | 50    | 0.1                     | 10    | 9.5                          | 5   | 60                            | 1.0                          | 165                       |

1/ For Ordering Information, Price, and Availability – Contact Factory.  
 2/ Screening based on MIL-PRF-19500. Screening flows available on request.  
 3/ Operating and testing over 10,000 V/inch may require encapsulation or immersion in a suitable dielectric material.  
 4/ I<sub>F</sub> = I<sub>O</sub>; Max. forward voltage measured with instantaneous forward pulse of 300µsec minimum.  
 5/ Max. lead temperature for soldering is 250°C, 3/8" from case for 5 sec maximum.  
 6/ Operating and storage temperature: -65°C to +175°C.  
 7/ Reverse Recovery Test Conditions: I<sub>F</sub>=50mA, I<sub>R</sub>=100mA, I<sub>RR</sub>=25mA, T<sub>A</sub>=25°C.  
 8/ Consult manufacturing for operating curves.  
 9/ t<sub>p</sub> = 1 ms, square wave.

**Surface Mount Square Tab**



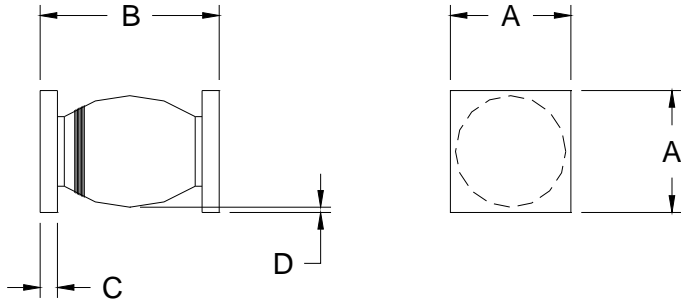


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**PACKAGE OUTLINE: Surface Mount Square Tab**



Dimensions are prior to soldering.

| DIMENSIONS |        |        |
|------------|--------|--------|
| DIM        | MIN    | MAX    |
| A          | 0.090" | 0.100" |
| B          | 0.150" | 0.210" |
| C          | 0.022" | 0.028" |
| D          | 0.002" | —      |

**NOTE:** All specifications are subject to change without notification.  
SCD's for these devices should be reviewed by SSDI prior to release.

**DATA SHEET #: RV0005F**

**DOC**