

## FEATURES

- \* Ideal for surface mount applications
- \* Easy pick and place
- \* Built-in strain relief
- \* Low forward voltage drop

## MECHANICAL DATA

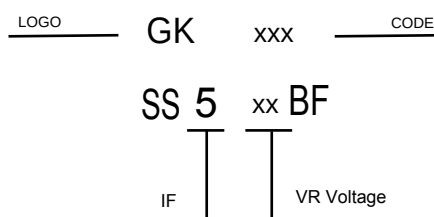
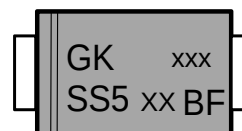
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Solder plated, solderable per MIL-STD-202F method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any

## VOLTAGE RANGE

150 to 200 Volts

## CURRENT

5.0 Ampere



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.  
Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| TYPE NUMBER                                                                                        | SS515BF    | SS520BF | UNITS |
|----------------------------------------------------------------------------------------------------|------------|---------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                             | 150        | 200     | V     |
| Maximum RMS Voltage                                                                                | 105        | 140     | V     |
| Maximum DC Blocking Voltage                                                                        | 150        | 200     | V     |
| Maximum Average Forward Rectified Current                                                          | 5.0        |         | A     |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | 120        |         | A     |
| Maximum Instantaneous Forward Voltage at 5.0A                                                      | 0.92       |         | V     |
| Maximum DC Reverse Current Ta=25°C                                                                 | 0.02       |         | mA    |
| at Rated DC Blocking Voltage Ta=100°C                                                              | 2          |         | mA    |
| Typical Junction Capacitance (Note1)                                                               | 380        |         | PF    |
| Typical Thermal Resistance RθJA(Note 2)                                                            | 55         |         | °C/W  |
| Operating Temperature Range Tj                                                                     | -65 — +150 |         | °C    |
| Storage Temperature Range Tstg                                                                     | -65 — +150 |         | °C    |

**Note:**1.Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
2.P.C.B. mounted with 0.4x0.4"(10x10mm) copper pad areas

## RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

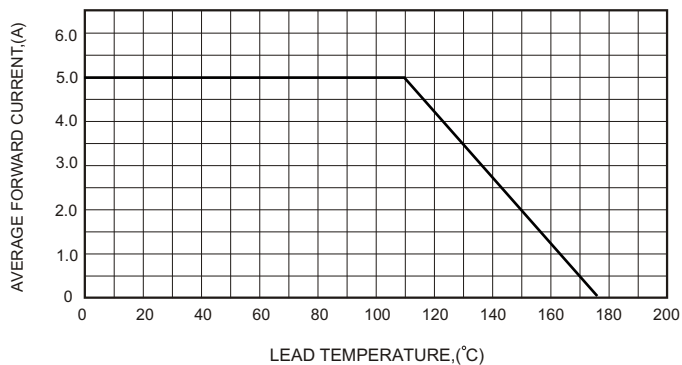


FIG.2-TYPICAL FORWARD CHARACTERISTICS

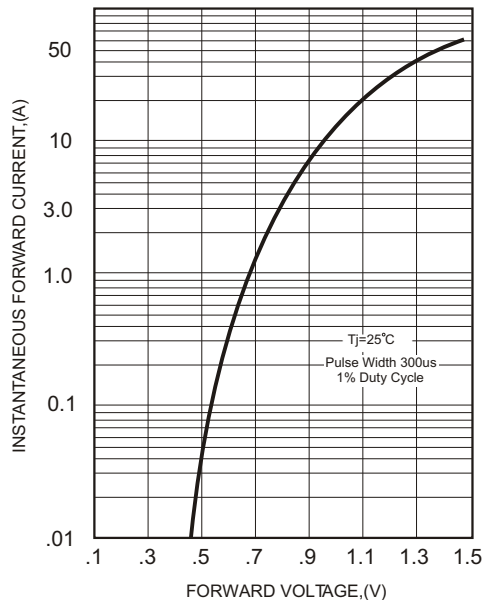


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

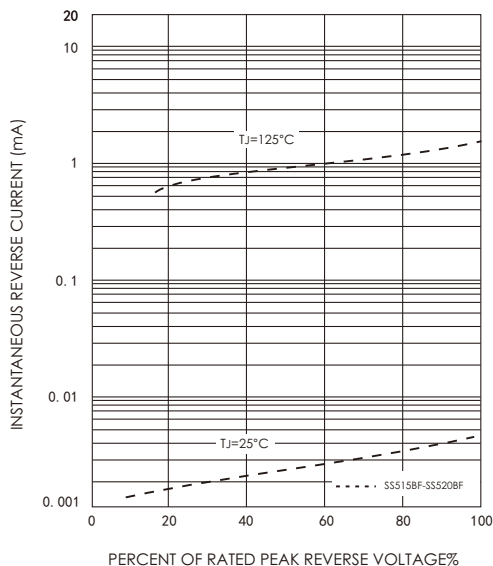


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

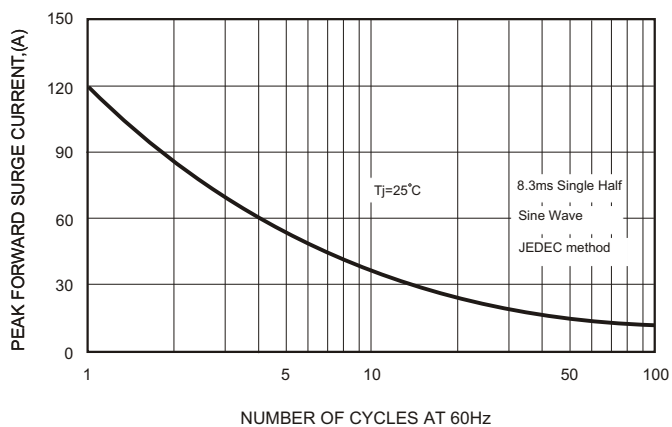
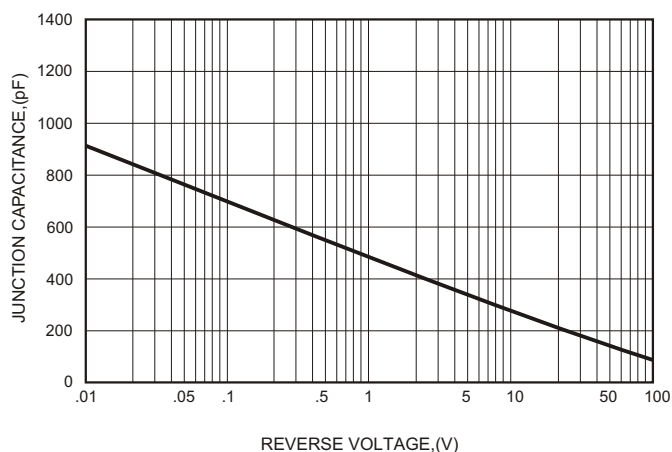
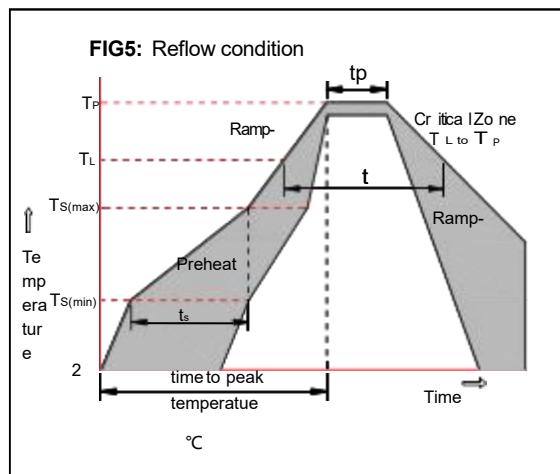


FIG.5-TYPICAL JUNCTION CAPACITANCE



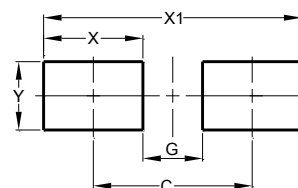
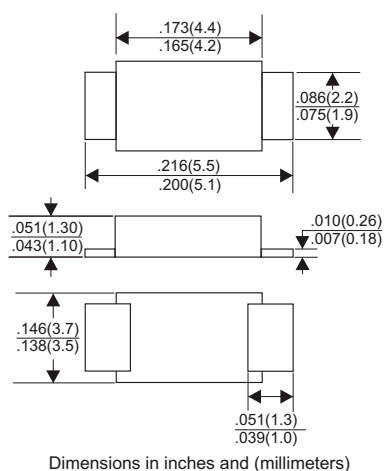
## Soldering parameters

| Reflow Condition                                        |                                   | Pb-Free assembly<br>(see as below) |
|---------------------------------------------------------|-----------------------------------|------------------------------------|
| Pre Heat                                                | -Temperature Min ( $T_{s(min)}$ ) | +150 °C                            |
|                                                         | -Temperature Max( $T_{s(max)}$ )  | +200 °C                            |
|                                                         | -Time (Min to Max) (ts)           | 60-180 secs.                       |
| Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak) |                                   | 3 °C/sec. Max                      |
| $T_{s(max)}$ to $T_L$ - Ramp-up Rate                    |                                   | 3 °C/sec. Max                      |
| Reflow                                                  | -Temperature( $T_L$ )(Liquid us)  | +217 °C                            |
|                                                         | -Temperature( $t_L$ )             | 60-150 secs.                       |
| Peak Temp ( $T_P$ )                                     |                                   | +260(+0/-5) °C                     |
| Time within 5 °C of actual Peak Temp ( $t_P$ )          |                                   | 30 secs. Max                       |
| Ramp-down Rate                                          |                                   | 6 °C/sec. Max                      |
| Time 25 °C to Peak Temp ( $T_P$ )                       |                                   | 8 min. Max                         |
| Do not exceed                                           |                                   | +260 °C                            |



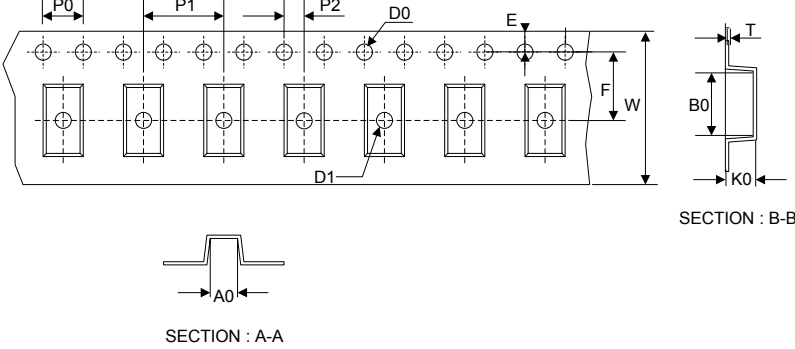
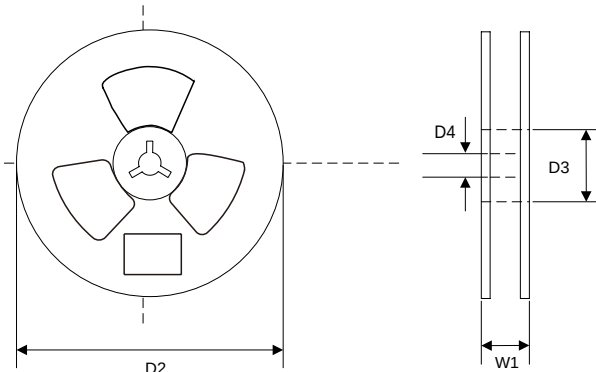
## Package Dimensions & Suggested Pad Layout

### SMBF



| Dimensions | Value (in mm) |
|------------|---------------|
| C          | 4.30          |
| G          | 1.80          |
| X          | 2.50          |
| X1         | 6.80          |
| Y          | 2.30          |

## Tape & reel specification

| Tape                                                                               |  | Symbol            | Dimension (mm) |
|------------------------------------------------------------------------------------|--|-------------------|----------------|
|   |  | P0                | 4.00±0.20      |
|                                                                                    |  | P1                | 8.00±0.20      |
|                                                                                    |  | P2                | 2.00±0.20      |
|                                                                                    |  | D0                | 1.55±0.15      |
|                                                                                    |  | D1                | 1.55±0.15      |
|                                                                                    |  | E                 | 1.75±0.20      |
|                                                                                    |  | F                 | 5.50±0.05      |
|                                                                                    |  | W                 | 12.00±0.10     |
|                                                                                    |  | A0                | 2.93±0.25      |
|                                                                                    |  | B0                | 5.00±0.25      |
|                                                                                    |  | K0                | 1.45±0.20      |
|                                                                                    |  | T                 | 0.25±0.10      |
|  |  | D2                | 330.0±5.0      |
|                                                                                    |  | D3                | 73.0Min.       |
|                                                                                    |  | D4                | 14.0±2.5       |
|                                                                                    |  | W1                | 16.0±2.5       |
|                                                                                    |  | Quantity: 5000PCS |                |