

## VOLTAGE RANGE

20 to 100 Volts

## CURRENT

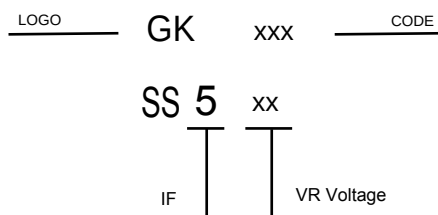
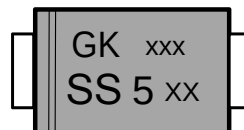
5.0 Ampere

## 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
- \* Weight: 0.21 gram



## 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                                                                                        | SS52       | SS53 | SS54 | SS55 | SS56 | SS58 | SS59 | SS510 | UNITS |
|----------------------------------------------------------------------------------------------------|------------|------|------|------|------|------|------|-------|-------|
| Maximum Recurrent Peak Reverse Voltage                                                             | 20         | 30   | 40   | 50   | 60   | 80   | 90   | 100   | V     |
| Maximum RMS Voltage                                                                                | 14         | 21   | 28   | 35   | 42   | 56   | 63   | 70    | V     |
| Maximum DC Blocking Voltage                                                                        | 20         | 30   | 40   | 50   | 60   | 80   | 90   | 100   | 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) | 150        |      |      |      |      |      |      |       | A     |
| Maximum Instantaneous Forward Voltage at 5.0A                                                      | 0.55       |      |      | 0.70 |      | 0.85 |      |       | V     |
| Maximum DC Reverse Current Ta=25℃                                                                  | 0.1        |      |      |      |      | 0.02 |      |       | mA    |
| at Rated DC Blocking Voltage Ta=100℃                                                               | 5          |      |      |      |      | 2    |      |       | mA    |
| Typical Junction Capacitance (Note1)                                                               | 300        |      |      |      |      |      |      |       | pF    |
| Typical Thermal Resistance R <sub>JL</sub> (Note 2)                                                | 10         |      |      |      |      |      |      |       | ℃/W   |
| Operating Temperature Range T <sub>J</sub>                                                         | -65 — +150 |      |      |      |      |      |      |       | ℃     |
| Storage Temperature Range T <sub>STG</sub>                                                         | -65 — +150 |      |      |      |      |      |      |       | ℃     |

### NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance Junction to Lead.

## RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

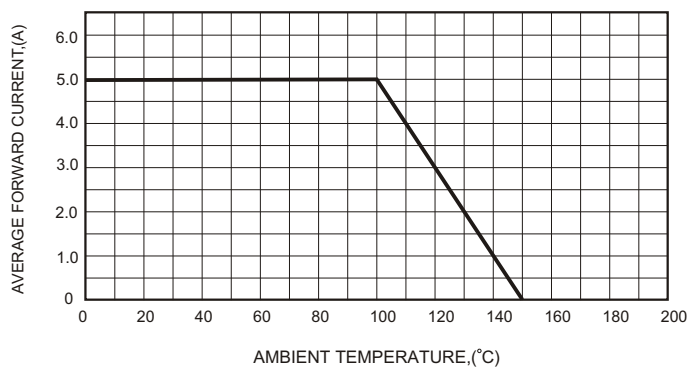


FIG.2-TYPICAL FORWARD CHARACTERISTICS

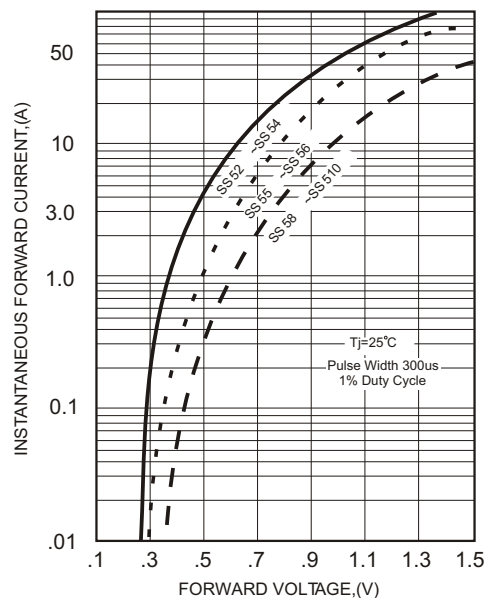


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

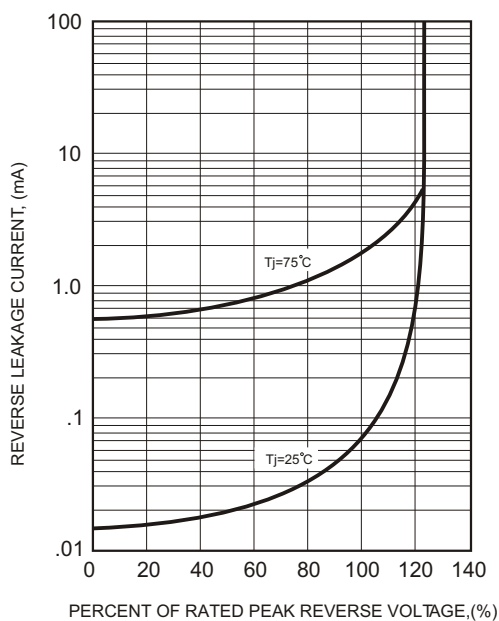


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

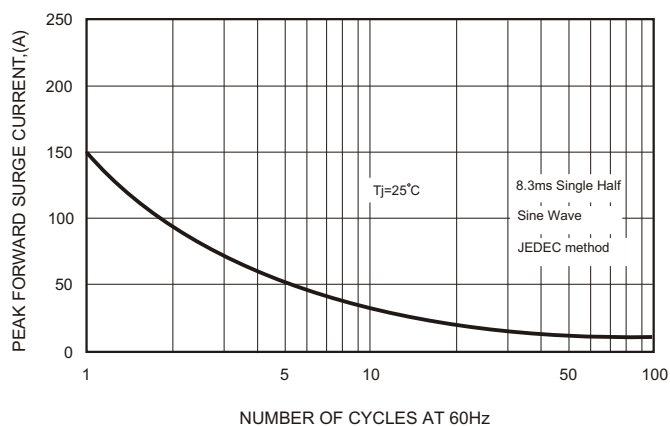
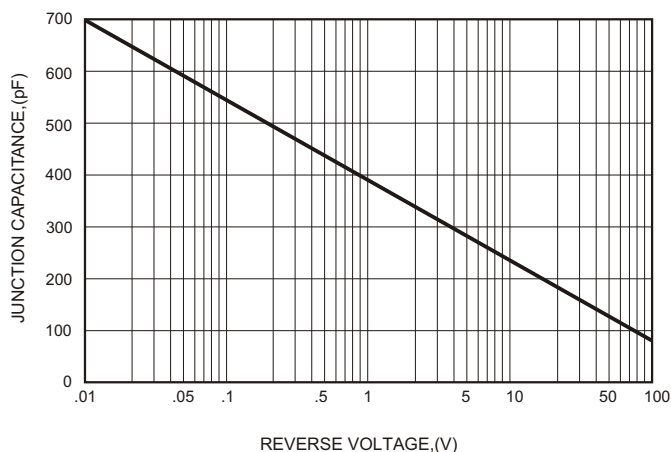
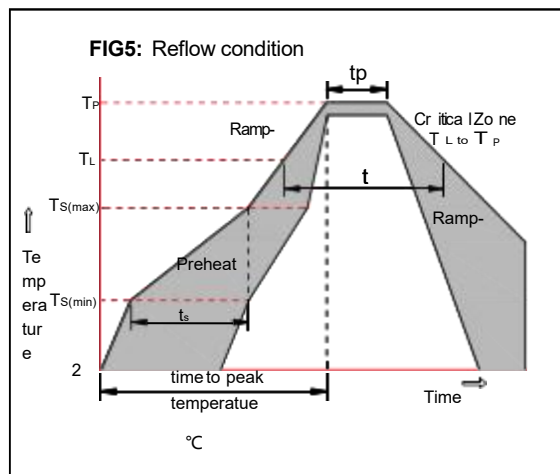


FIG.5-TYPICAL JUNCTION CAPACITANCE



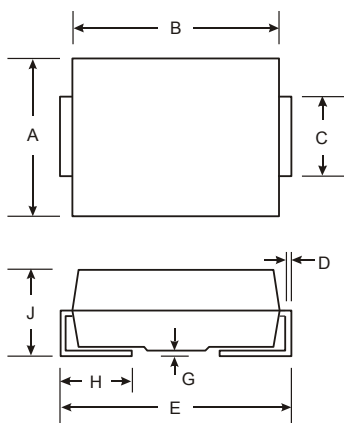
## Soldering parameters

| 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                             |

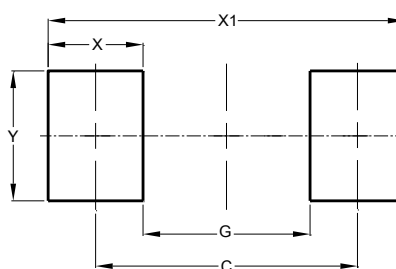


## Package Dimensions & Suggested Pad Layout

### SMC

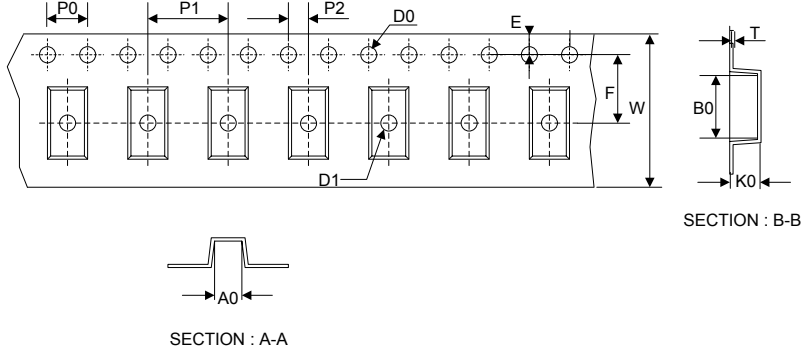
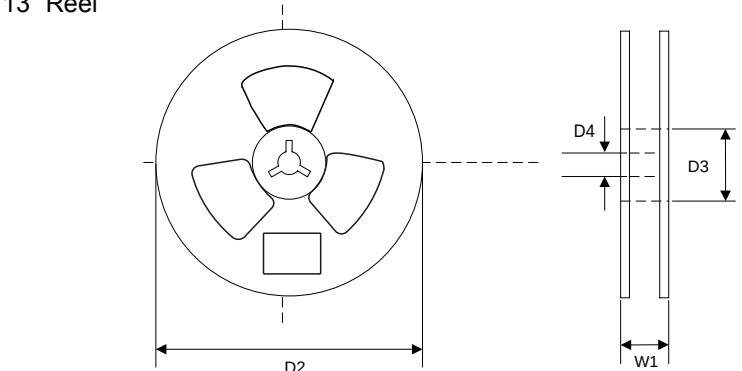


| SMC                  |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 5.59 | 6.22 |
| B                    | 6.60 | 7.11 |
| C                    | 2.75 | 3.15 |
| D                    | 0.15 | 0.31 |
| E                    | 7.75 | 8.13 |
| G                    |      | 0.20 |
| H                    | 0.76 | 1.52 |
| J                    | 2.00 | 2.62 |
| All Dimensions in mm |      |      |



| Dimensions | Value<br>(in mm) |
|------------|------------------|
| C          | 7.60             |
| G          | 4.10             |
| X          | 3.50             |
| X1         | 11.10            |
| Y          | 4.50             |

## Tape & reel specification

| Tape                                                                               |  | Symbol            | Dimension (mm) |
|------------------------------------------------------------------------------------|--|-------------------|----------------|
|   |  | P0                | 4.00±0.20      |
|                                                                                    |  | P1                | 8.00±0.20      |
|                                                                                    |  | P2                | 2.00±0.20      |
|                                                                                    |  | D0                | 1.60±0.20      |
|                                                                                    |  | D1                | 1.60±0.20      |
|                                                                                    |  | E                 | 1.75±0.20      |
|                                                                                    |  | F                 | 7.50±0.20      |
|                                                                                    |  | W                 | 16.00±0.20     |
|                                                                                    |  | A0                | 6.30±0.20      |
|                                                                                    |  | B0                | 8.20±0.20      |
|                                                                                    |  | K0                | 2.60±0.20      |
|  |  | T                 | 0.23±0.10      |
|                                                                                    |  | D2                | 330.0±5.0      |
|                                                                                    |  | D3                | 73Min.         |
|                                                                                    |  | D4                | 16.0±2.5       |
|                                                                                    |  | W1                | 20.0±2.0       |
|                                                                                    |  | Quantity: 3000PCS |                |