VOLTAGE RANGE
20 to 100 Volts
CURRENT
5.0 Ampere

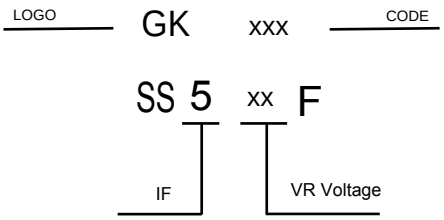
## FEATURES

* 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 guranteed
* Polarity: Color band denotes cathode end
* Mounting position: Any




## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

| TYPE NUMBER | SS52F | SS53F | SS54F | SS55F | SS56F | SS58F | SS59F | SS510F | 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) | 120 | | | | | | | | A |
| Maximum Instantaneous Forward Voltage at 5.0A | 0.55 | | | 0.70 | | 0.85 | | | V |
| Maximum DC Reverse Current Ta=25°C | 0.1 | | | | | 0.02 | | | mA |
| at Rated DC Blocking Voltage Ta=100°C | 5 | | | | | 2 | | | mA |
| Typical Junction Capacitance (Note1) | 380 | | | | | | | | pF |
| Typical Thermal Resistance R JL (Note 2) | 10 | | | | | | | | °C/W |
| Operating Temperature Range TJ | -65 — +150 | | | | | | | | °C |
| Storage Temperature Range TSTG | -65 — +150 | | | | | | | | °C |

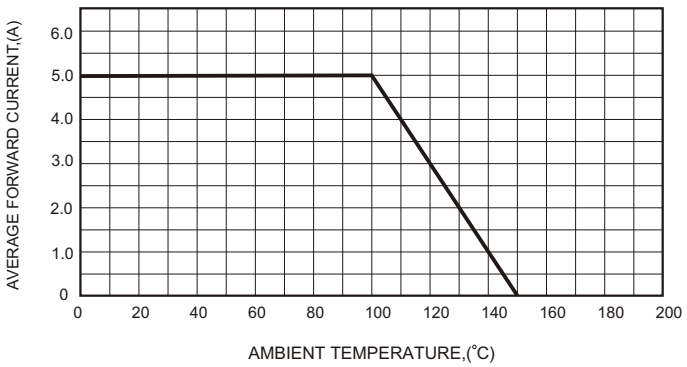
**NOTES:**

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

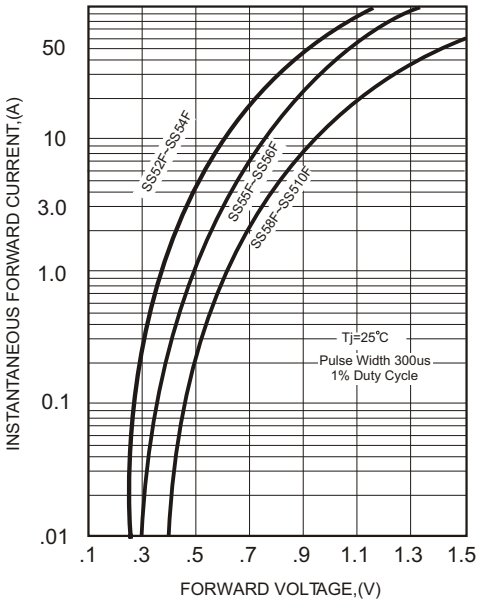
2. Thermal Resistance Junction to Lead.

## RATING AND CHARACTERISTIC CURVES

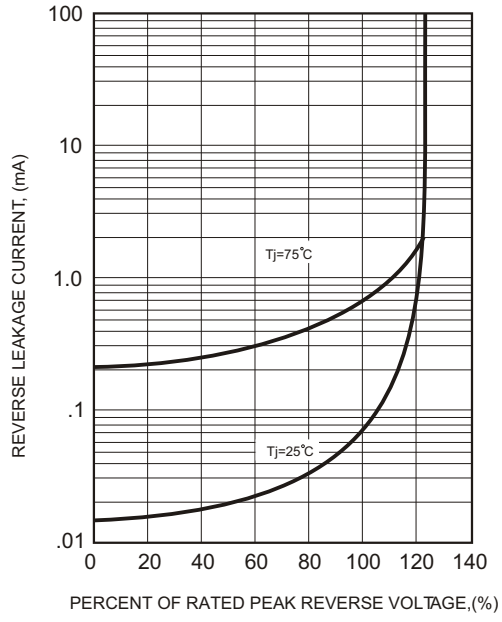
### FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE



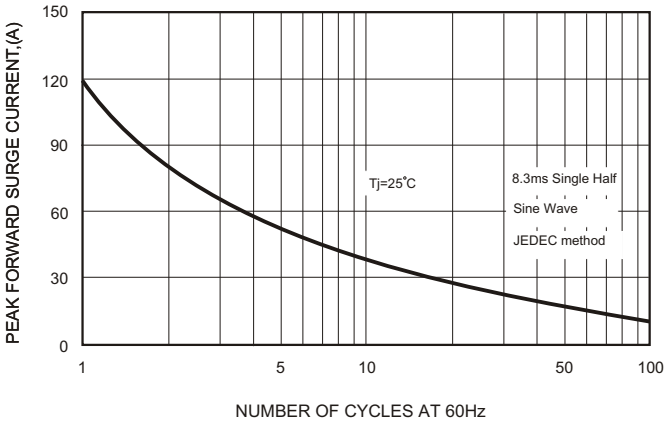

### FIG.2-TYPICAL FORWARD CHARACTERISTICS



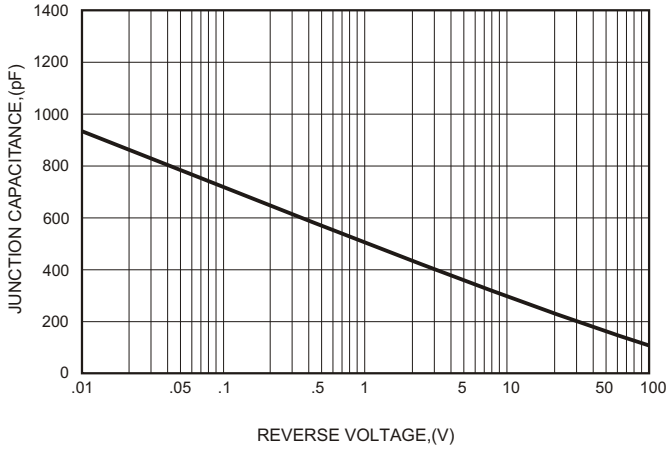

### FIG.3 - TYPICAL REVERSE CHARACTERISTICS




### FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



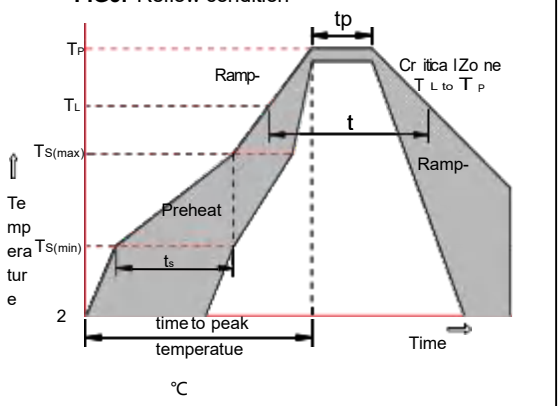

### FIG.5-TYPICAL JUNCTION CAPACITANCE



## Soldering parameters

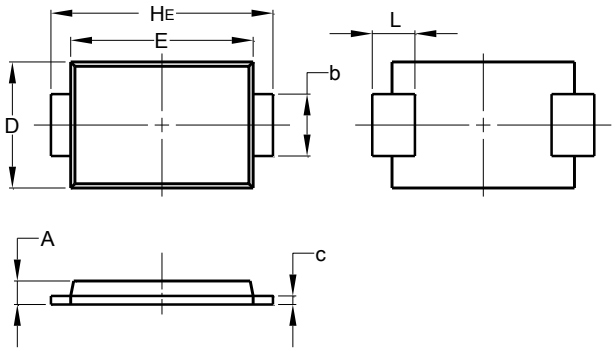
| Reflow Condition | | Pb-Free assembly (see as bellow) |
|---|---|---|
| Pre Heat | -Temperature Min ($T_{s(min)}$) | +150℃ |
| | -Temperature Max($T_{s(max)}$) | +200℃ |
| | -Time (Min to Max) (ts) | 60-180 secs. |
| Average ramp up rate (Liquid us Temp ($T_L$) to peak) | | 3℃/sec. Max |
| $T_{s(max)}$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

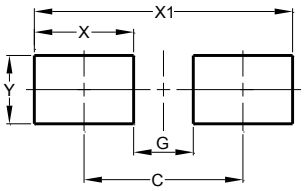
**FIG5:** Reflow condition




## Package Dimensions & Suggested Pad Layout

**SMAF**



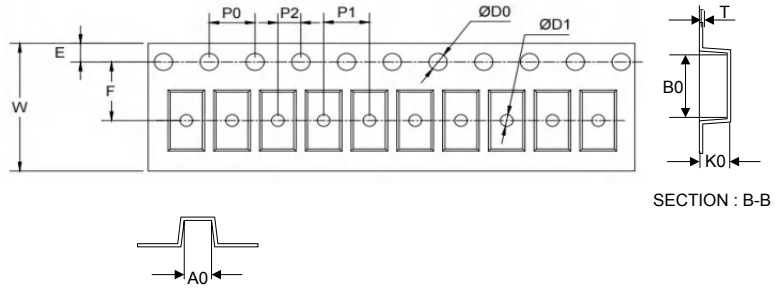




| SMAF | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 0.90 | 1.20 |
| **b** | 1.30 | 1.60 |
| **c** | 0.10 | 0.20 |
| **D** | 2.40 | 2.70 |
| **E** | 3.30 | 3.70 |
| **$H_E$** | 4.40 | 4.90 |
| **L** | 0.60 | 1.20 |
| **All Dimensions in mm** | | |

| Dimensions | Value (in mm) |
|---|---|
| **C** | 3.80 |
| **G** | 2.20 |
| **X** | 1.60 |
| **X1** | 5.40 |
| **Y** | 1.70 |

## Tape & rell specification

Tape



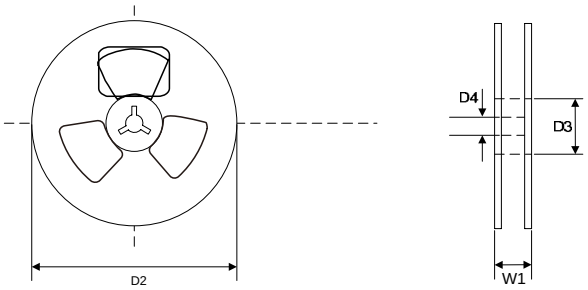

SECTION : B-B




SECTION : A-A

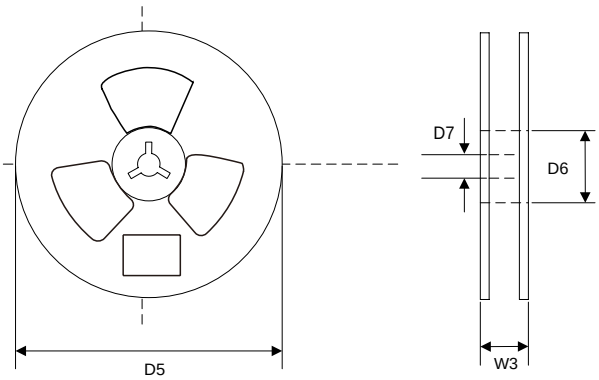
| Symbol | Dimension (mm) |
|---|---|
| P0 | 4.00±0.20 |
| P1 | 4.00±0.20 |
| P2 | 2.00±0.20 |
| D0 | 1.55±0.25 |
| D1 | 1.55±0.25 |
| E | 1.75±0.20 |
| F | 5.50±0.20 |
| W | 12.00±0.20 |
| A0 | 2.85±0.20 |
| B0 | 5.00±0.20 |
| K0 | 1.45±0.20 |
| T | 0.26±0.10 |

7” Reel




| | |
|---|---|
| D2 | 176.0±5.0 |
| D3 | 55.0Min. |
| D4 | 14.0±2.5 |
| W1 | 14.0±2.5 |
| Quantity: 3000PCS | |

13” Reel




| | |
|---|---|
| D5 | 330.0±5.0 |
| D6 | 73.0Min. |
| D7 | 14.0±2.5 |
| W2 | 14.0±2.5 |
| Quantity: 10000PCS | |