

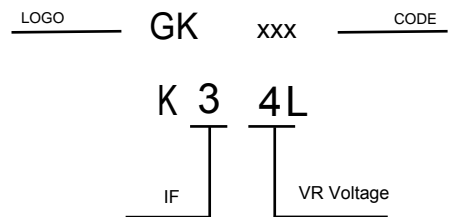
VOLTAGE RANGE  
40 Volts  
CURRENT  
3.0 Ampere

## 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
- \* Metallurgically bonded construction
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any



## 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  | K34L            | UNITS                       |
|--|-----------------|-----------------------------|
| Maximum Recurrent Peak Reverse Voltage   | 40              | V                           |
| Maximum RMS Voltage  | 28              | V                           |
| Maximum DC Blocking Voltage  | 40              | V                           |
| Maximum Average Forward Rectified Current  |                 |                             |
| See Fig. 1   | 3.0             | A                           |
| Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | 80              | A                           |
| Maximum Instantaneous Forward Voltage at 3.0A  | 0.41            | V                           |
| Maximum DC Reverse Current $T_a=25^{\circ}\text{C}$  | 200             | $\mu\text{A}$               |
| at Rated DC Blocking Voltage $T_a=125^{\circ}\text{C}$   | 30              | mA                          |
| Typical Junction Capacitance (Note1)   | 240             | pF                          |
| Typical Thermal Resistance R <sub>JA</sub> (Note 2)  | 88              | $^{\circ}\text{C}/\text{W}$ |
| Operating Temperature Range T <sub>J</sub>   | — -55 to +125 — | $^{\circ}\text{C}$          |
| Storage Temperature Range T <sub>STG</sub>   | -55 to +150     | $^{\circ}\text{C}$          |

### NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. P.C.B. mounted with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

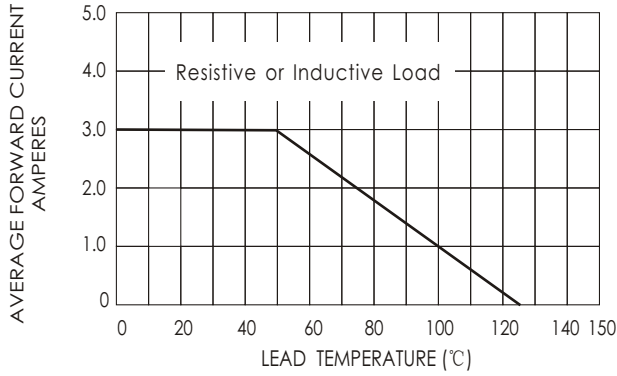


FIG.2-TYPICAL FORWARD CHARACTERISTICS

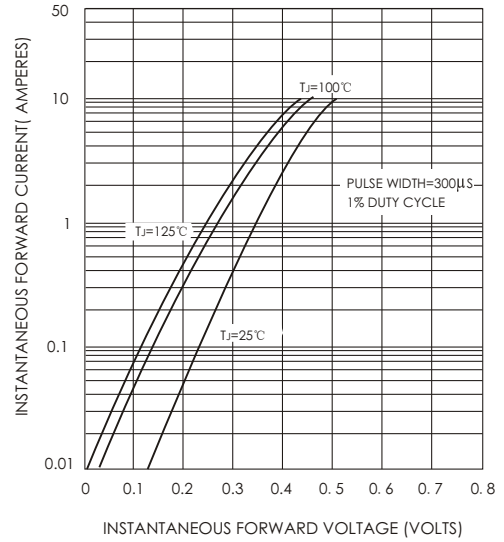


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

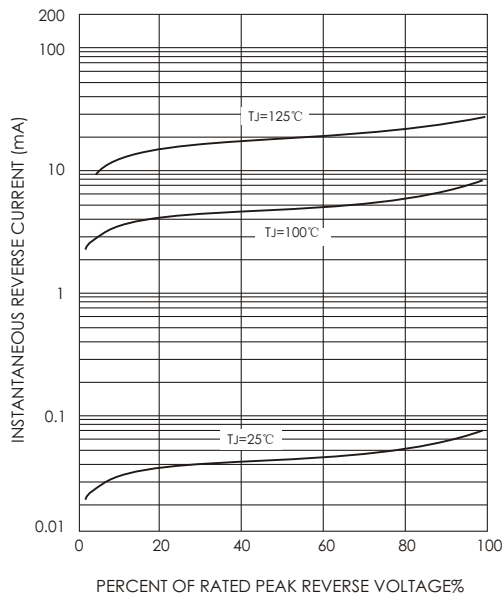


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

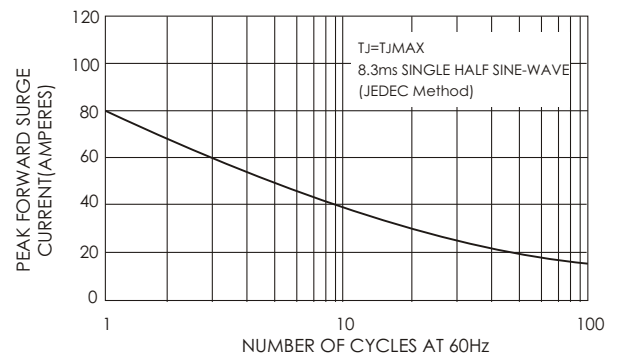
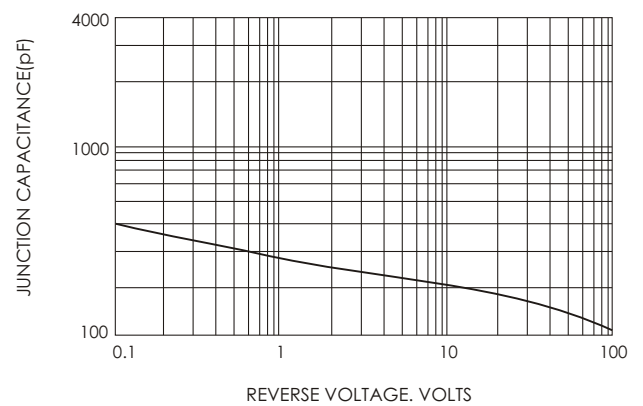
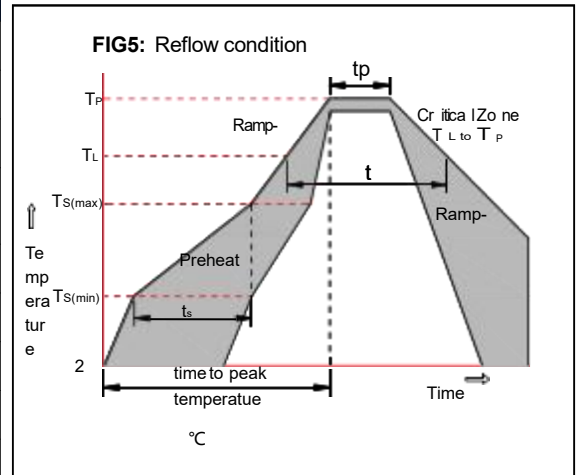


FIG.5-TYPICAL JUNCTION CAPACITANCE



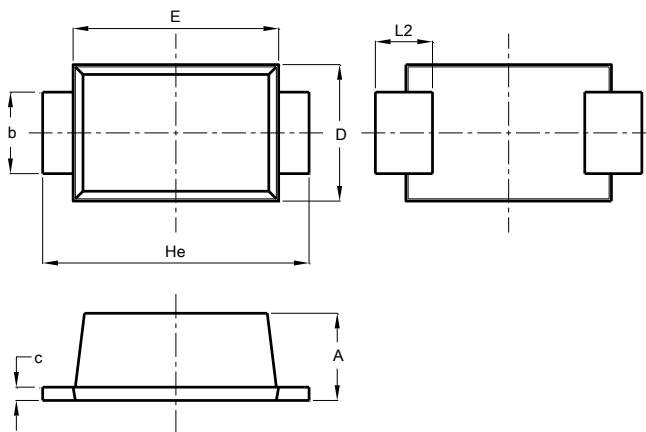
Soldering parameters

| 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

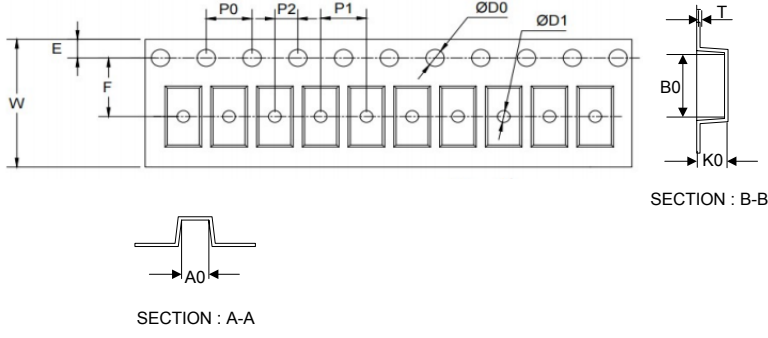
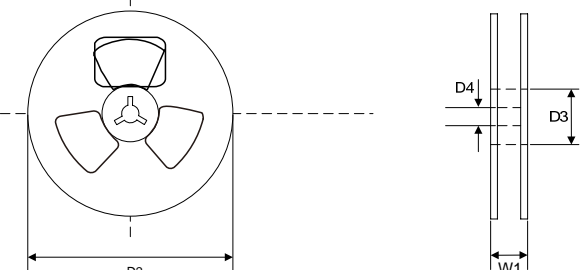
SOD123FL



| SOD123FL             |      |      |
|----------------------|------|------|
| Dim                  | Min  | Max  |
| A                    | 1.00 | 1.20 |
| b                    | 0.80 | 1.10 |
| c                    | 0.12 | 0.20 |
| D                    | 1.75 | 1.95 |
| E                    | 2.60 | 2.90 |
| He                   | 3.55 | 3.80 |
| L2                   | 0.50 | 0.85 |
| All Dimensions in mm |      |      |

| Dimensions | Value (in mm) |
|------------|---------------|
| C          | 3.25          |
| G          | 2.00          |
| X          | 1.25          |
| X1         | 4.50          |
| Y          | 1.50          |

Tape & reel specification

| Tape  | Symbol  | Dimension (mm) |           |
|---|---|----------------|-----------|
|  | P0  | 4.00±0.20      |           |
|   | P1  | 4.00±0.20      |           |
|   | P2  | 2.00±0.20      |           |
|   | D0  | 1.55±0.15      |           |
|   | D1  | 1.00±0.20      |           |
|   | E   | 1.75±0.20      |           |
|   | F   | 3.50±0.25      |           |
|   | W   | 8.00±0.20      |           |
|   | A0  | 1.85±0.20      |           |
|   | B0  | 3.95±0.20      |           |
|   | K0  | 1.30±0.20      |           |
|   | T   | 0.21±0.10      |           |
|   | <p>7" Reel</p>  | D2             | 178.0±5.0 |
|   |   | D3             | 55.0Min.  |
| D4  |   | 10.0±2.5       |           |
| W1  |   | 11.5±2.5       |           |
| Quantity: 3000PCS   |   |                |           |