

## VOLTAGE RANGE

20 to 100 Volts

## CURRENT

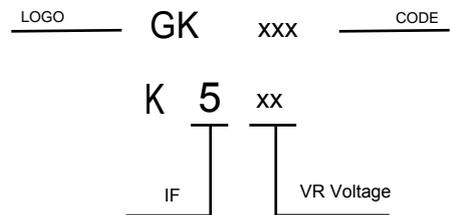
5.0 Ampere

## 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



## 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%.

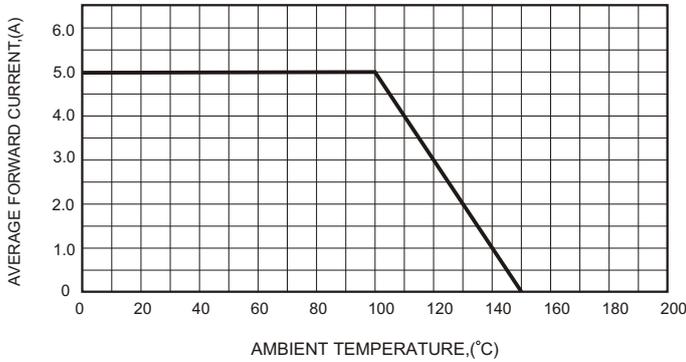
TYPE NUMBER	K52	K53	K54	K55	K56	K58	K59	K510	UNITS
Maximum Recurrent Peak Reverse Voltage	20	30	40	50	60	80	90	100	V
Maximum RMS Voltage	14	21	28	35	42	56	63	70	V
Maximum DC Blocking Voltage	20	30	40	50	60	80	90	100	V
Maximum Average Forward Rectified Current	5.0								A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	100								A
Maximum Instantaneous Forward Voltage at 5.0A	0.60		0.77		0.90				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)	300								pF
Typical Thermal Resistance R <sub>JL</sub> (Note 2)	10								°C/W
Operating Temperature Range T <sub>J</sub>	-65 — +150								°C
Storage Temperature Range T <sub>stg</sub>	-65 — +150								°C

### NOTES:

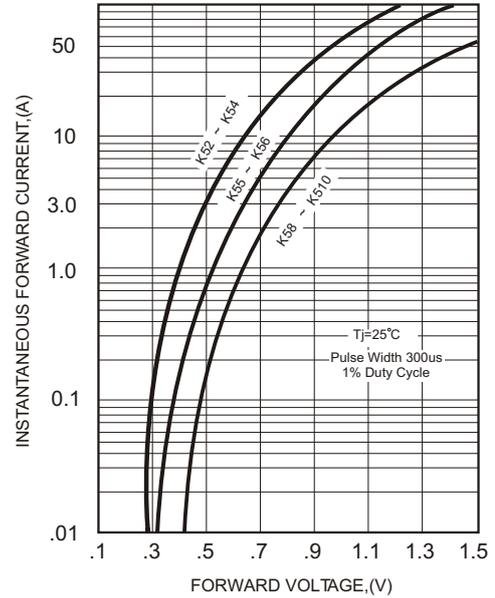
1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance Junction to Lead.

**RATING AND CHARACTERISTIC CURVES**

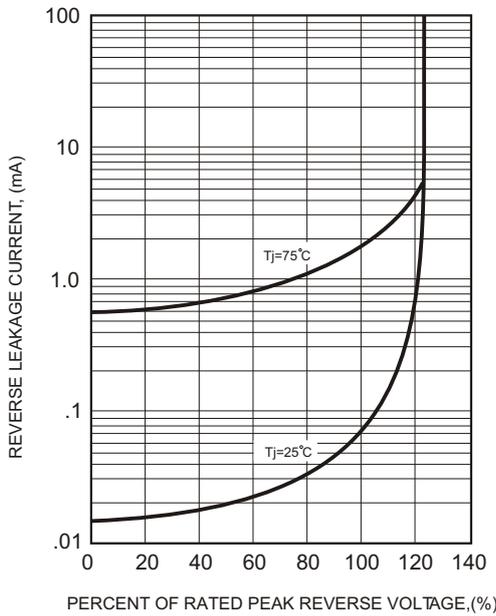
**FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE**



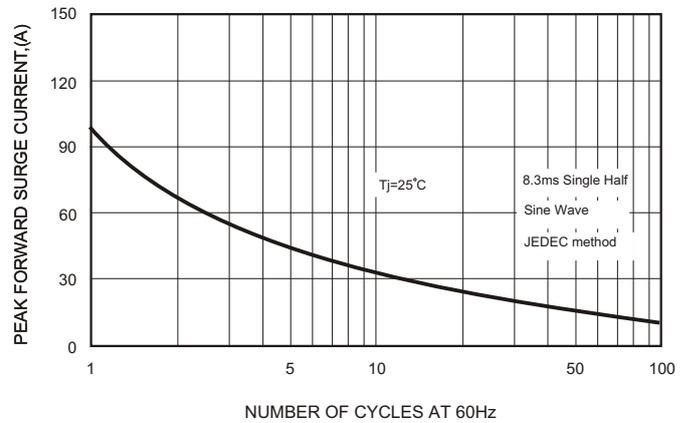
**FIG.2-TYPICAL FORWARD CHARACTERISTICS**



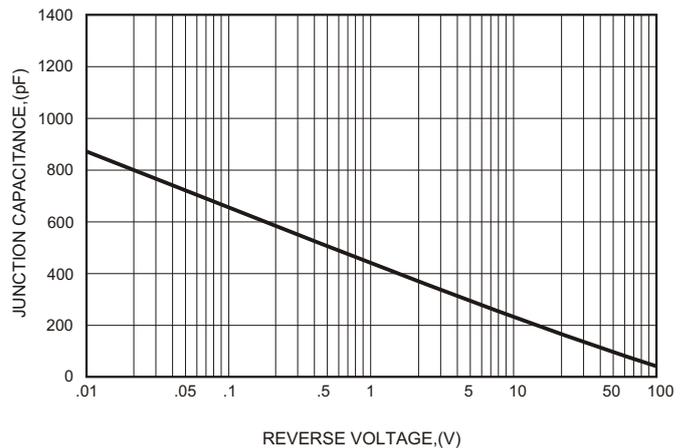
**FIG.3 - TYPICAL REVERSE CHARACTERISTICS**



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

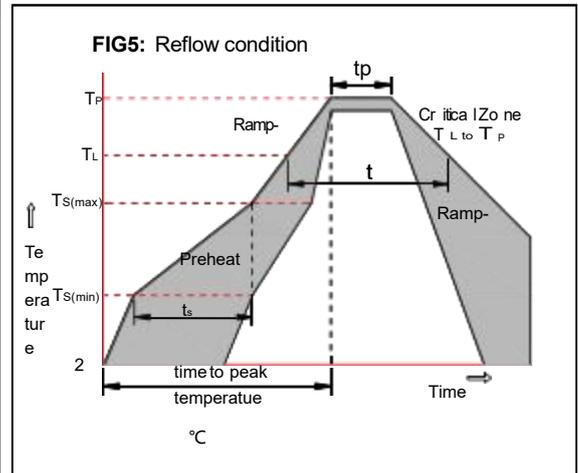


**FIG.5-TYPICAL JUNCTION CAPACITANCE**



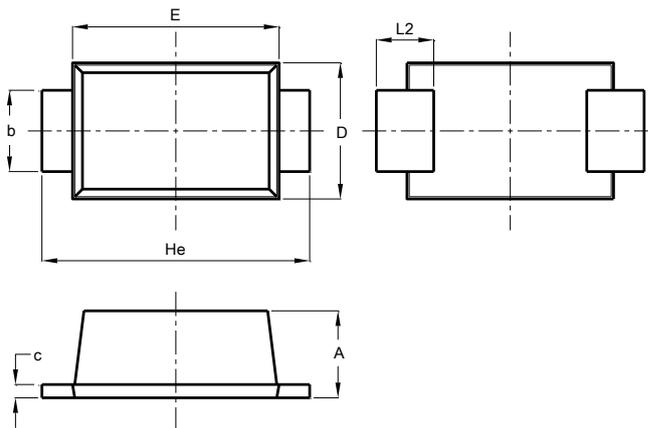
### Soldering parameters

Reflow Condition		Pb-Free assembly (see as 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

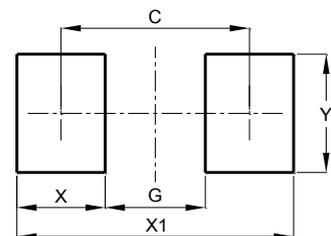


### Package Dimensions & Suggested Pad Layout

#### 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		
		7" Reel		D2	178.0±5.0
				D3	55.0Min.
D4	10.0±2.5				
W1	11.5±2.5				
Quantity: 3000PCS					