

**SURFACE MOUNT  
SCHOTTKY BARRIER RECTIFIER**

**REVERSE VOLTAGE – 40 Volts  
FORWARD CURRENT – 1.0 Ampere**

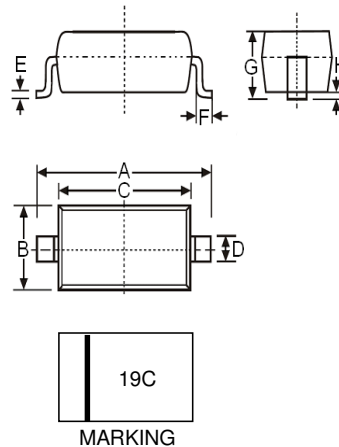
**FEATURES**

- Low Forward Voltage Drop
- High Surge Capability and High Current Capability
- For Surface Mounted Applications
- High Conductance
- Guard Ring Construction for Transient Protection
- ESD Capability:  
Machine Model, C (> 400 V)  
Human Body Model, 3B (> 8 kV)
- IEC 61000-4-2, level 4 (ESD), >15KV (air)

**MECHANICAL DATA**

- Case: SOD-123 Plastic
- Case Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture Sensitivity: Level 1 per J-STD-020D
- Lead Pb-Free in RoHS 2002/95/EC Compliant
- Weight: approx. 0.01 grams (approximate)

**SOD-123**



SOD-123		
Dim.	Min.	Max.
A	3.55	3.85
B	1.40	1.70
C	2.55	2.85
D	0.55 Typical	
E	0.11 Typical	
F	0.25	---
G	---	1.35
H	---	0.10
All Dimensions in millimeter		

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

**ABSOLUTE RATINGS**

PARAMETER	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage	$V_{RRM}$	40	V
Working peak reverse voltage	$V_{RWM}$		
DC blocking voltage	$V_R$		
Forward continuous current (Note 1)	$I_F$	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load(JEDEC Method)	$I_{FSM}$	25	A
Power dissipation (Note 1)	$P_D$	450	mW
Thermal Resistance (Note 2)	$R_{\theta JA}$	230	°C/W
Operation and storage temperature range	$T_J, T_{STG}$	-65 to +125	°C

**ELECTRICAL CHARACTERISTICS**

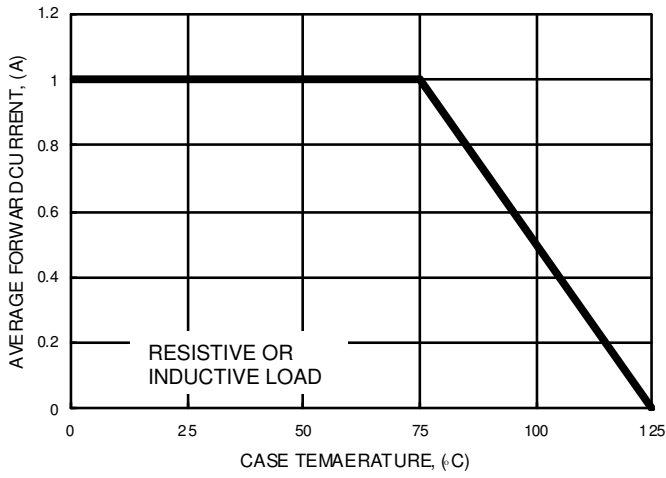
PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT
Minimum Reverse Breakdown Voltage	$I_R = 1.0mA$	$V_{(BR)R}$	40	V
Maximum Forward Voltage	$I_F = 0.1A$	$V_F$	320	mV
	$I_F = 1.0A$		450	
	$I_F = 3.0A$		750	
Maximum DC Reverse Current at Rated DC Blocking Voltage	$V_R = 4.0V, T_J = 25^\circ C$	$I_R$	50	uA
	$V_R = 6.0V, T_J = 25^\circ C$		75	
	$V_R = 40V, T_J = 25^\circ C$		1.0	mA
	$V_R = 40V, T_J = 100^\circ C$		10	
	$V_R = 4.0V, T_J = 100^\circ C$		2.0	
	$V_R = 6.0V, T_J = 100^\circ C$	3.0		
Typical Junction Capacitance (Note 1)	$V_R = 4V DC, f = 1.0MHz$	$C_J$	70	pF

**Note :**

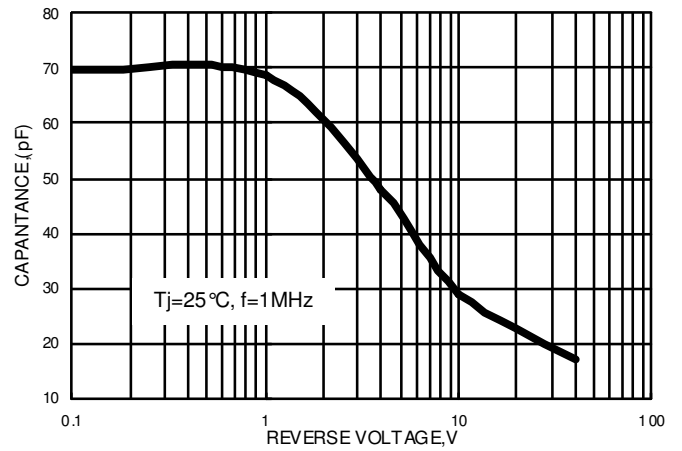
- (1) Unit mounted with 7.0\*7.0mm copper pad areas
- (2) Thermal Resistance Junction to Ambient,

REV. 1, Mar.-2016, KSYR82

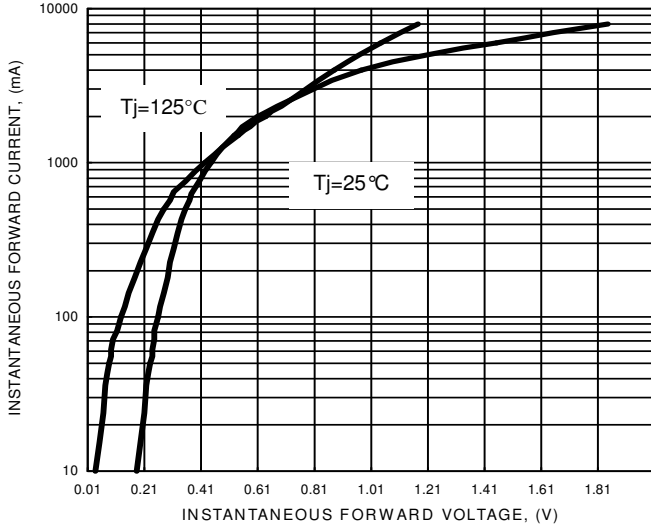
**FIG.1- FORWARD CURRENT DERATING CURVE**



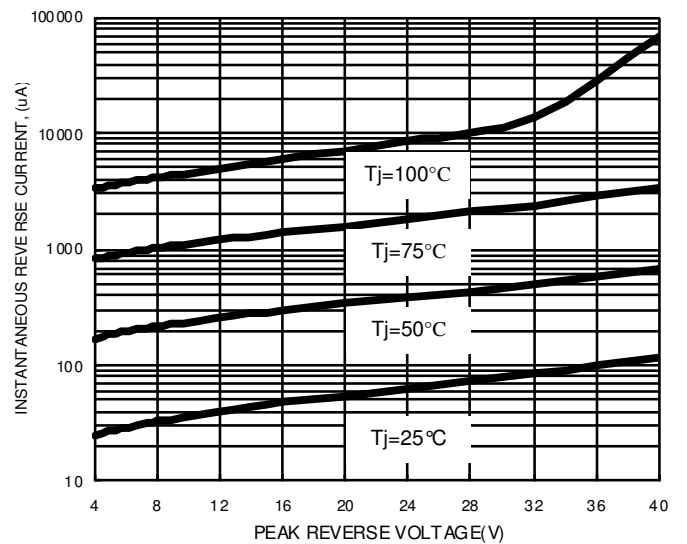
**FIG.2- TYPICAL JUNCTION CAPACITANCE**



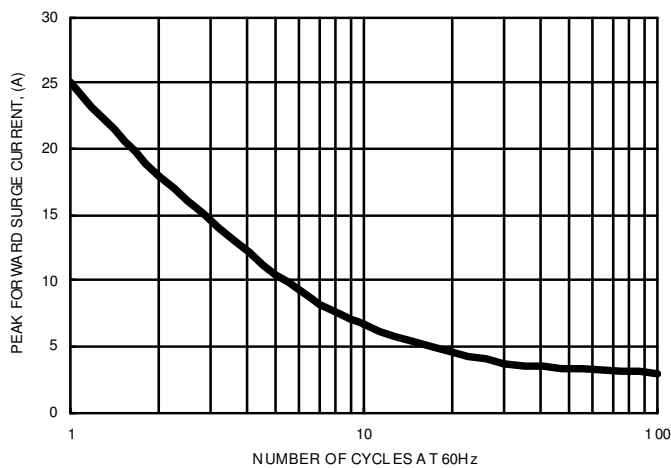
**FIG.3- TYPICAL FORWARD CHARACTERISTICS**



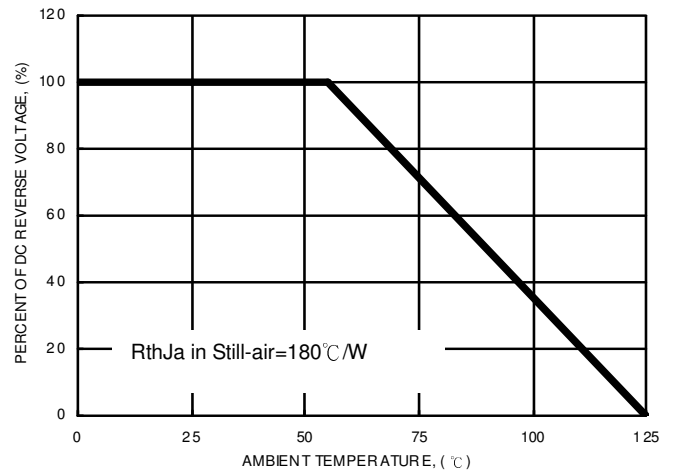
**FIG.4- TYPICAL REVERSE CHARACTERISTICS**



**FIG.5- MAXIMUM NON-REPETITIVE SURGE CURRENT**



**FIG.6- DC REVERSE VOLTAGE DERATING CURVE**



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