

Surface Mount Schottky Barrier Diodes

(Pb) Lead(Pb)-Free

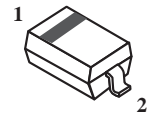
Features:

- * Low Forward Voltage Drop
- * Guard Ring Construction for Transient Protection
- * Negligible Reverse Recovery Time
- * Low Reverse Capacitance
- * Also Available in Lead Free Version

Mechanical Data:

- * Case: SOD-123, Plastic
- * Case material - UL Flammability Rating Classification 94V-0
- * Moisture sensitivity: Level 1 per J-STD-020A
- * Polarity: Cathode Band
- * Leads: Solderable per MIL-STD-202, Method 208
- * Weight: 0.01 grams (approx.)

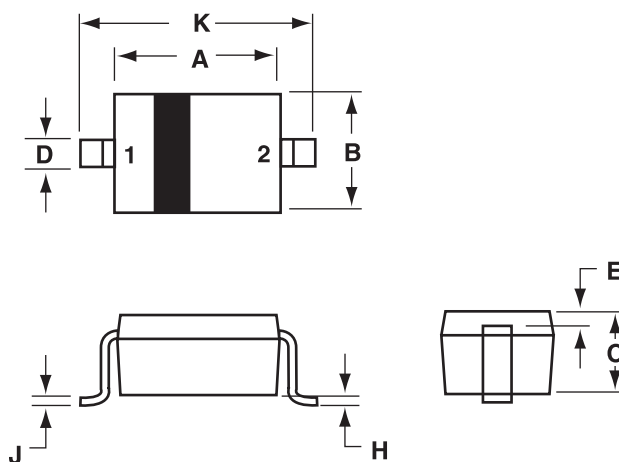
**SMALL SIGNAL
SCHOTTKY DIODES
350m AMPERES
20-40 VOLTS**



SOD-123

SOD-123 Outline Dimensions

Unit:mm



SOD-123		
Dim	Min	Max
A	2.55	2.85
B	1.40	1.80
C	0.95	1.35
D	0.50	0.70
E	0.30 REF	
H	-	0.10
J	-	0.15
K	3.55	3.85

PIN 1. CATHODE
2. ANODE


Maximum Ratings ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Characteristic	Symbol	SD103AW	SD103BW	SD103CW	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	40	30	20	V
Working Peak Reverse Voltage	V_{RWM}				
DC Blocking Voltage	V_R				
RMS Reverse Voltage	$V_{R(RMS)}$	28	21	14	V
Average Rectified Output Current (Note 1)	I_{FAV}	350			mA
Non-Repetitive Peak Forward Surge Current @ $t \leq 1.05$	I_{FSM}	1.5			A
Power Dissipation (Note 1)	P_D	400			mW
Typical thermal Resistance junction to Ambient (Note 1)	$R_{\theta JA}$	300			$^{\circ}\text{C/W}$
Operating & Storage Temperature Range	T_J T_{STG}	-65 to +125			$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage(Note 2)	$V_{(BR)R}$	40 30 20	- - -	- - -	V
Forward Voltage (Note 2) $I_F=20\text{mA}$ $I_F=200\text{mA}$	V_F	- -	- -	0.37 0.60	V
Reverse Current (Note 2) $V_R=30\text{V}, \text{SD103AW}$ $V_R=20\text{V}, \text{SD103BW}$ $V_R=10\text{V}, \text{SD103CW}$	I_R	-	-	5.0	μA
Junction Capacitance, $f=1\text{MHZ}$, $V_R=0\text{VDC}$	C_j		28		PF
Reverse Recovery Time $I_F=I_R=200\text{mA}$, $I_{rr}=0.1 \cdot I_R, R_L=100\Omega$	t_{rr}		10		ns

Device Marking

Item	Marking	Equivalent Circuit diagram
SD103AW	S4	
SD103BW	S5	
SD103CW	S6	

Note: 1. Part mounted on FR-4 board with recommended pad layout
2. Short duration test pulse used to minimize self-heating effect.

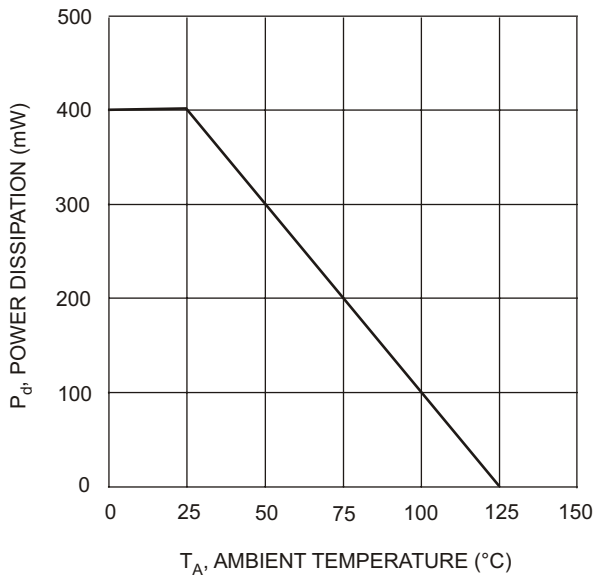


Fig.1 Power Derating Curve

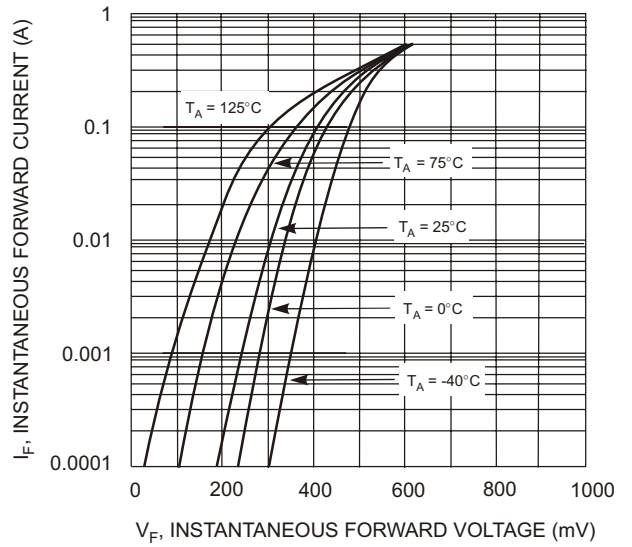


Fig. 2 Typical Forward Characteristics

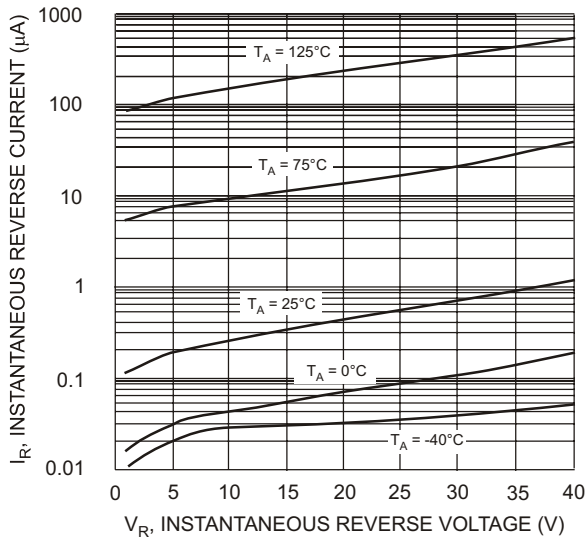


Fig. 3 Typical Reverse Characteristics

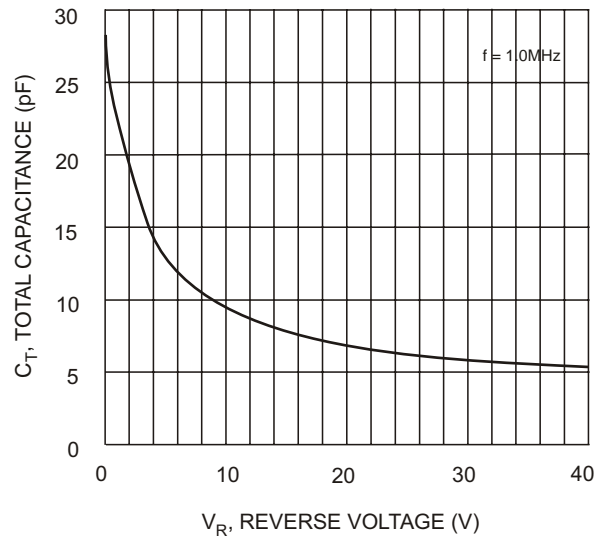


Fig. 4 Typ. Total Capacitance vs. Reverse Voltage