

Surface Mount Schottky Barrier Diode Silicon Hot-Carrier Diodes

 Lead(Pb)-Free

Features:

- * Extremely Low Minority Carrier Lifetime - 15 ps(Typ).
- * Very Low Capacitance. — 1.5pF(Max)@V_R = 15V
- * Low Reverse Leakage. — I_R = 13nAdc(Typ)
- * Schottky Barrier Diodes Encapsulated in SOD-323 Package.

Applications:

- * For High Efficiency UHF and VHF Detector.
- * For Fast Switching RF and Digital Applications.
- * For High-Volume Consumer and industrial / Commercial Requirement.

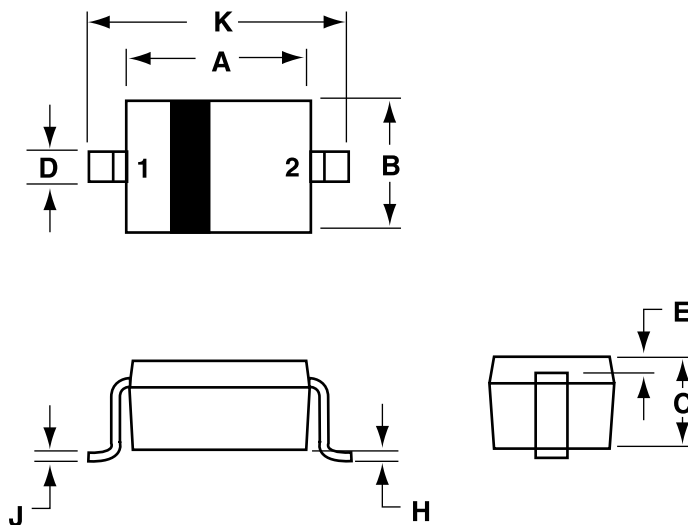
**Silicon HOT-CARRIER
DETECTOR AND
SWITCHING DIODES
30 VOLTS**



SOD-323

SOD-323 Outline Demensions

Unit:mm



Dim	MILLMETERS	
	Min	Max
A	1.60	1.80
B	1.15	1.35
C	0.80	1.00
D	0.25	0.40
E	0.15 REF	
H	0.00	0.10
J	0.089	0.377
K	2.30	2.70

PIN 1.CATHODE
2.ANODE

MAXIMUM RATINGS ($T_J = 125^\circ\text{C}$ unless otherwise noted)

Characteristics	Symbol	Value	Unit
Reverse Voltage	V_R	30	V
Total Device Dissipation FR-5 Board ⁽¹⁾ , $T_A=25^\circ\text{C}$ Derate above 25°C	P_D	200 1.57	mW mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	635	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

Note: FR-5 Minimum Pad

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage $I_R = 10\mu\text{A}$	$V_{(BR)R}$	30	-	-	V
Maximum instantaneous Forward Voltage $I_F=1.0\text{mA}$ $I_F=10\text{mA}$	V_F	-	0.38 0.52	0.45 0.60	V
Reverse Leakage $V_R = 25\text{V}$	I_R	-	13	200	nA
Diode Capacitance $V_R = 15\text{V}, f = 1.0\text{MHz}$	C_T	-	0.9	1.5	pF

Device Marking

Item	Marking	Equivalent Circuit Diagram
WBDL301	4T	

Electrical Characteristics Curves (Ta=25°C unless specified otherwise)

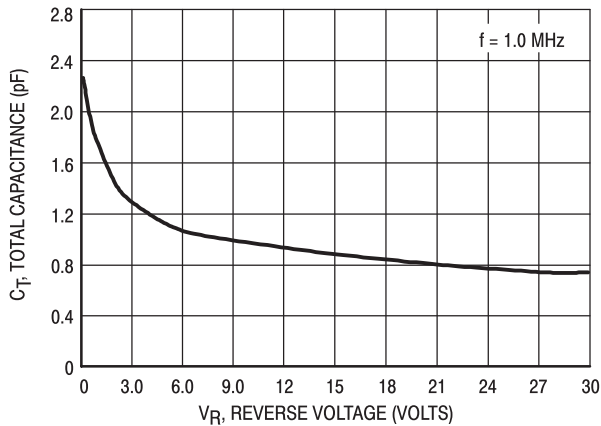


Figure 1. Total Capacitance

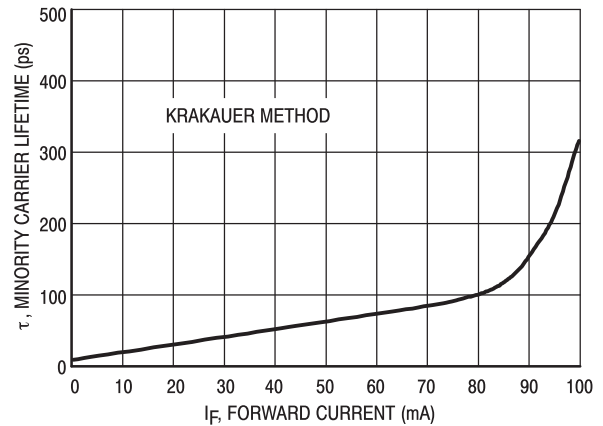


Figure 2. Minority Carrier Lifetime

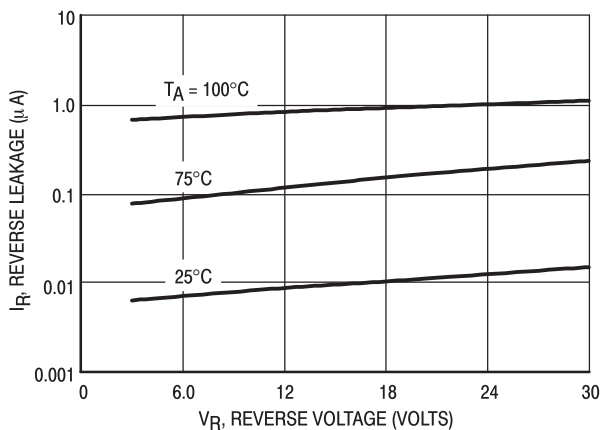


Figure 3. Reverse Leakage

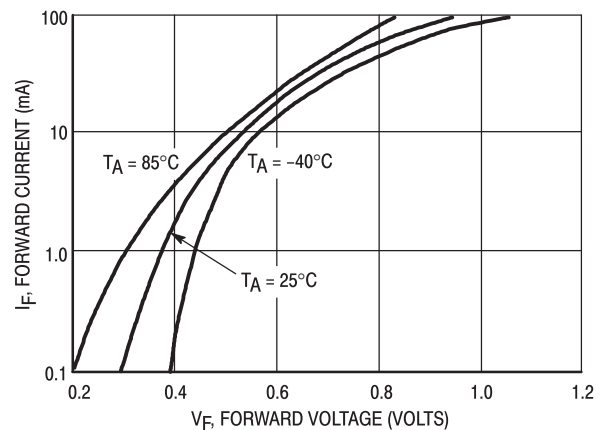


Figure 4. Forward Voltage

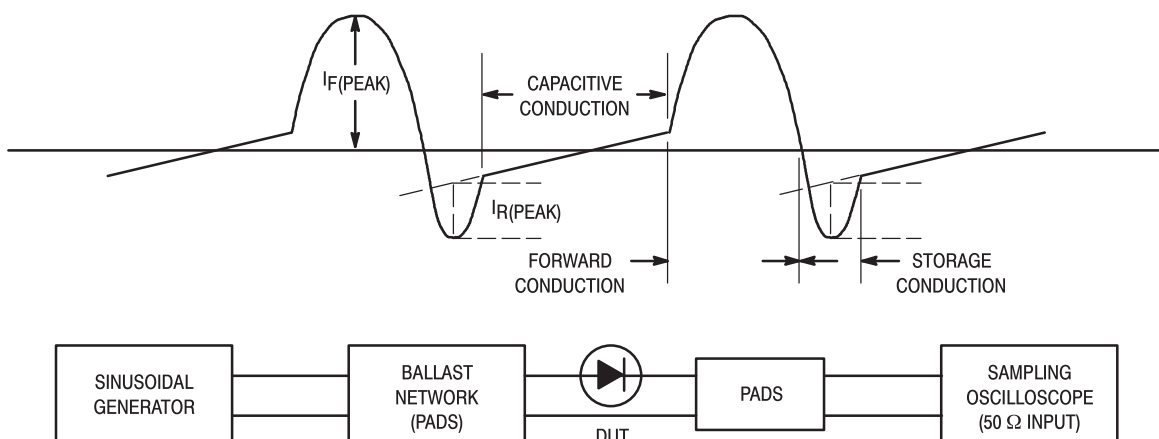


Figure 5. Krakauer Method of Measuring Lifetime