



WBD301

Surface Monut Schottky Barrier Diode
Silicon Hot-Carrier Diodes

Lead(Pb)-Free

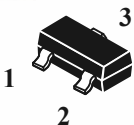
Silicon HOT-CARRIER
DETECTOR AND
SWITCHING DIODES
30 VOLTS

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 SOT-23 Package.

Applications:

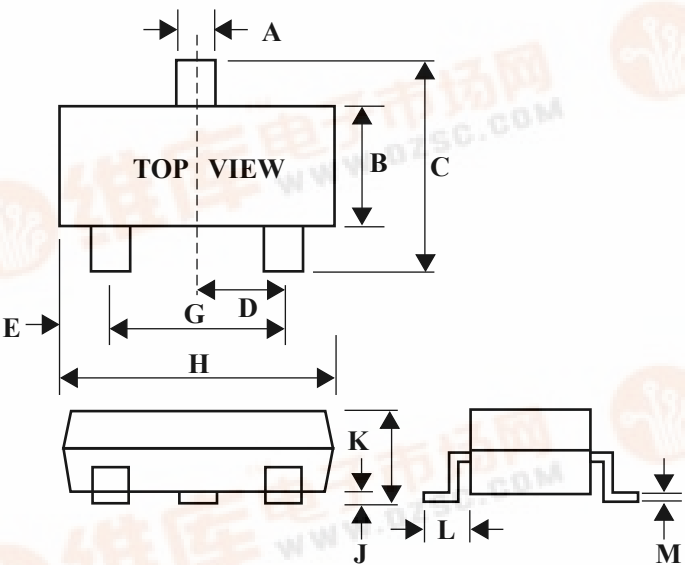
- * For High Efficiency UHF and VHF Detector.
- * For Fast Switching RF and Digital Applications.
- * For High-Volume Consumer and industrial / Commercial Requirement.



SOT-23

SOT-23 Outline Dimensions

Unit:mm



Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25

MAXIMUM RATINGS (T_J = 125°C unless otherwise noted)

Characteristics	Symbol	Value	Unit
Reverse Voltage	V _R	30	V
Total Device Dissipation FR-5 Board ⁽¹⁾ , TA=25°C Derate above 25°C	P _D	200 2.0	mW mW/°C
Operation Junction Temperature Range	T _J	-55 to +125	°C
Junction and Storage Temperature Range	T _{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage I _R = 10μA	V _{(BR)R}	30	-	-	V
Maximum instantneous Forward Voltage IF=1.0mA IF=10mA	V _F	-	0.38 0.52	0.45 0.60	V
Reverse Leakage V _R = 25V	I _R	-	13	200	nA
Diode Capacitance V _R = 15V, f = 1.0MHz	C _T	-	0.9	1.5	pF

Device Marking

Item	Marking	Equivalent Circuit Diagram
WBD301	4T	

Electrical Characteristics Curves ($T_A = 25^\circ\text{C}$ unless specified otherwise)

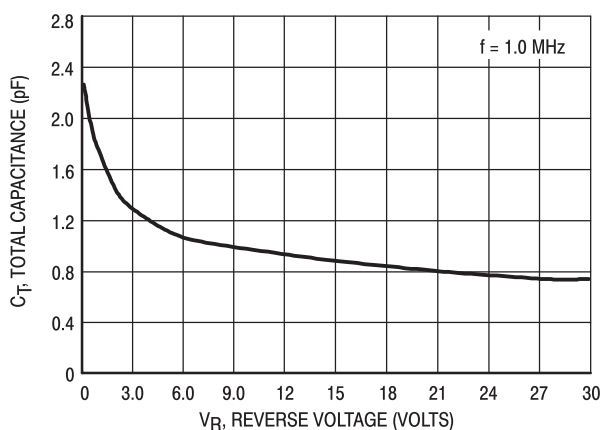


Figure 1. Total Capacitance

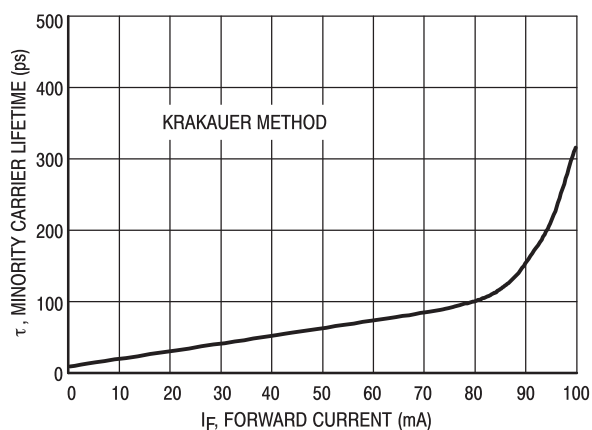


Figure 2. Minority Carrier Lifetime

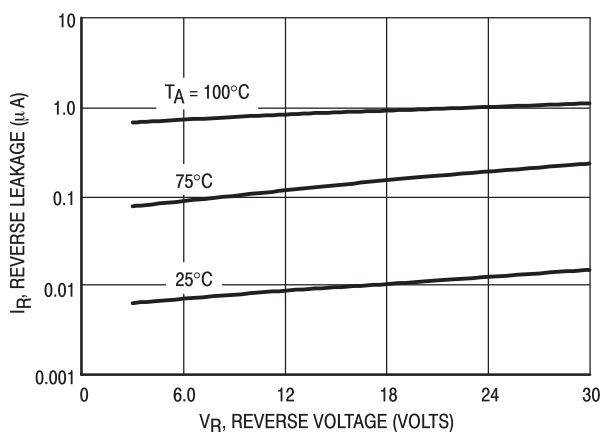


Figure 3. Reverse Leakage

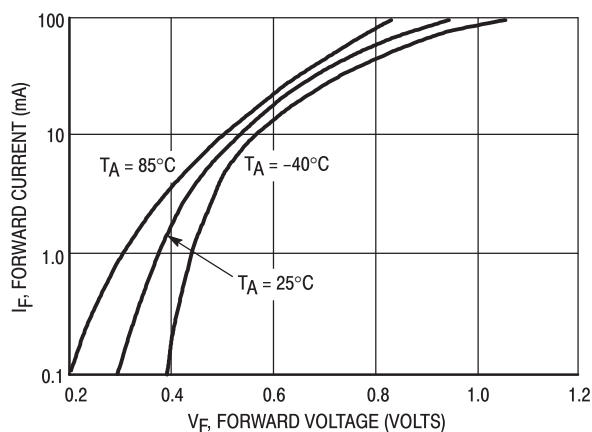


Figure 4. Forward Voltage

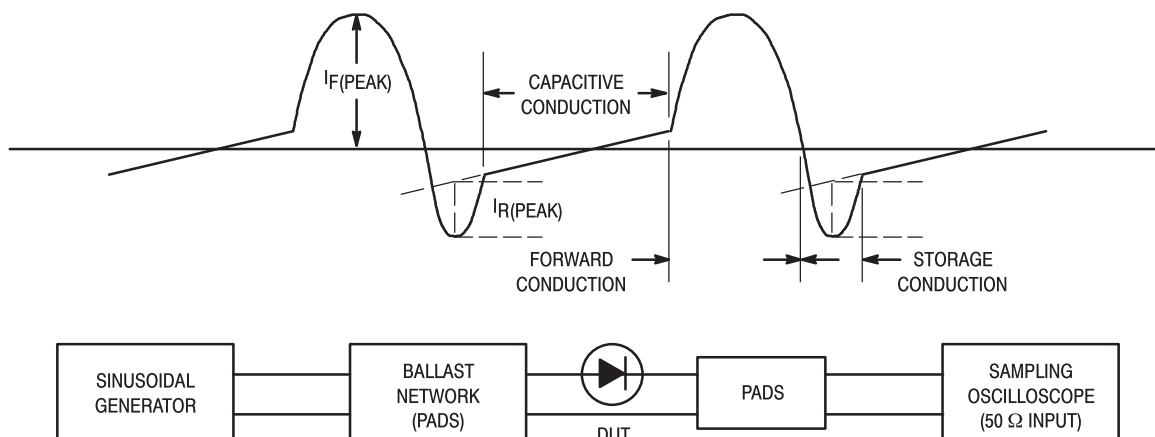


Figure 5. Krakauer Method of Measuring Lifetime