# WEITRON

# WBDL301

## Surface Monut Schottky Barrier Diode
## Silicon Hot-Carrier Diodes

**Lead(Pb)-Free**

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




**SOD-323**

## Features:

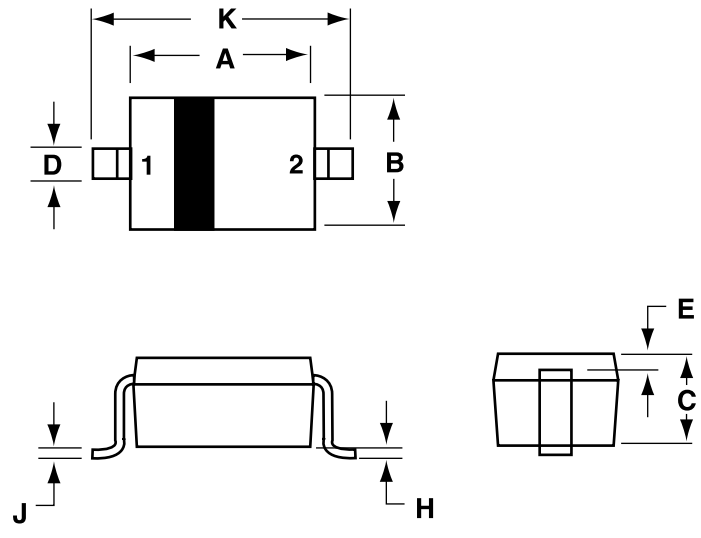
* Extremely Low Minority Carrier Lifetime - 15 ps(Typ).
* Very Low Capacitance. — 1.5pF(MaX)@$V_R$ = 15V
* Low Reverse Leakage. — $I_R$ = 13nAdc(Typ)
* Schottky Barrier Diodes Encapsulated in SOD-323 Package.

## Applications:

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

## 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°C unless otherwise noted)

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

Note: FR-5 Minimum Pad

**ELECTRICAL CHARACTERISTICS**

| Characteristics | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| Reverse Breakdown Voltage<br>$I_R$ = 10μA | $V_{(BR)R}$ | 30 | - | - | V |
| Maximum instantneous Forward Voltage<br>IF=1.0mA<br>IF=10mA | $V_F$ | - | 0.38<br>0.52 | 0.45<br>0.60 | V |
| Reverse Leakage<br>$V_R$ = 25V | $I_R$ | - | 13 | 200 | nA |
| Diode Capacitance<br>$V_R$ = 15V, f = 1.0MHz | $C_T$ | - | 0.9 | 1.5 | pF |

**Device Marking**

| Item | Marking | Eqivalent Circuit Diagram |
|---|---|---|
| WBDL301 | 4T |  |

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

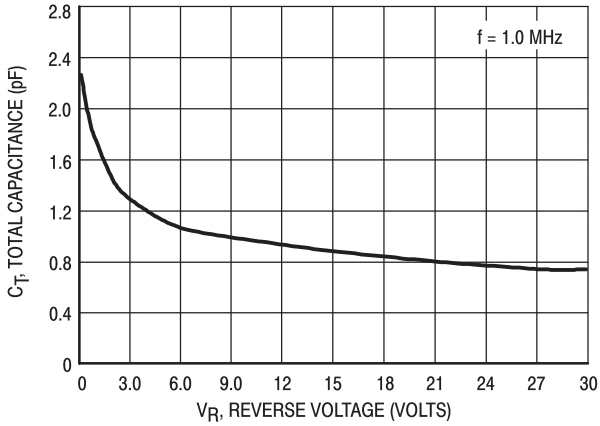



**Figure 1. Total Capacitance**

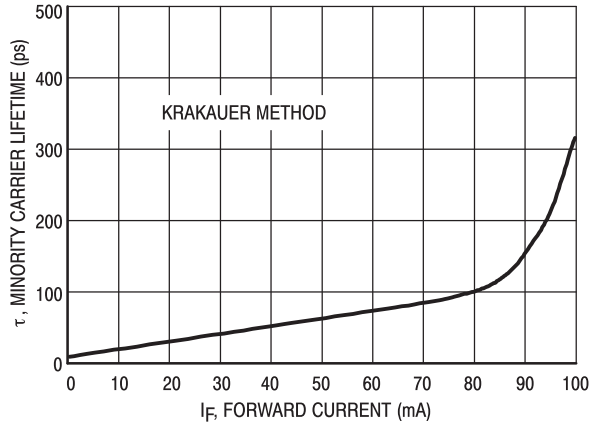



**Figure 2. Minority Carrier Lifetime**

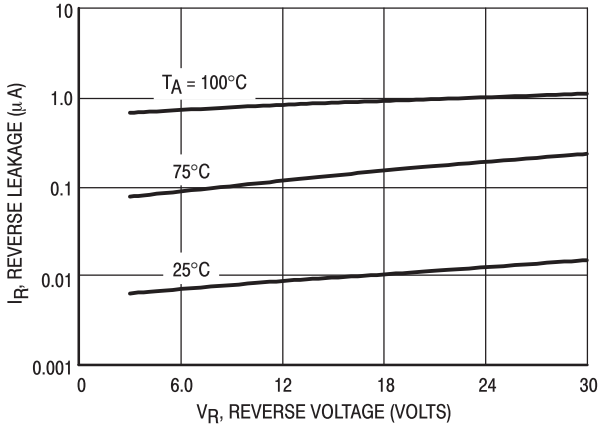



**Figure 3. Reverse Leakage**

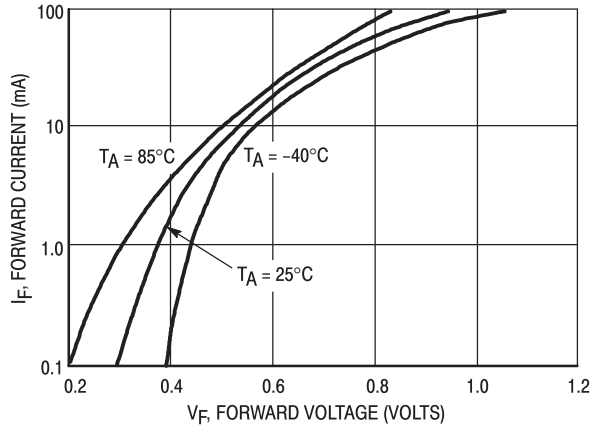



**Figure 4. Forward Voltage**

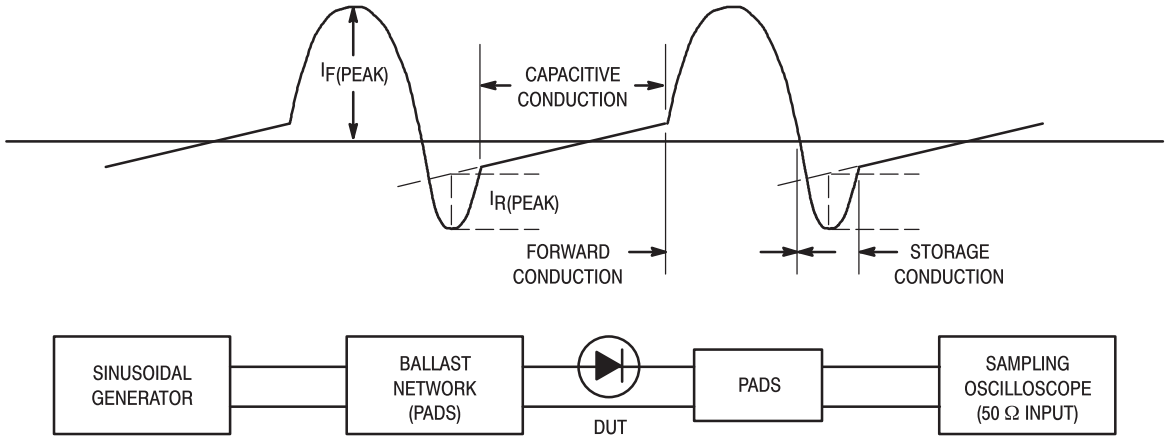



**Figure 5. Krakauer Method of Measuring Lifetime**