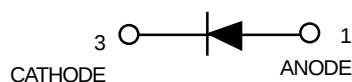


Silicon Hot-Carrier Diodes

Schottky Barrier Diodes

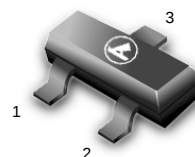
These devices are designed primarily for high-efficiency UHF and VHF detector applications. They are readily adaptable to many other fast switching RF and digital applications. They are supplied in an inexpensive plastic package for low-cost, high-volume consumer and industrial/commercial requirements. They are also available in a Surface Mount package.

- Extremely Low Minority Carrier Lifetime –15ps(Typ)
- very Low Capacitance –1.5pF(Max)@VR=15V
- CLow Reverse Leakage –IR=13 nAdc(Typ)MBD301,MMBD301



MMBD301LT1

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



**CASE 318-08, STYLE 6
SOT- 23 (TO-236AB)**

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

	MBD301	MMBD301LT1	
Rating	symbol	value	unit
Reverse Voltage	V_R	30	Volts
Forward Power Dissipation	P_F		
@TA=25 °C		280	mW
Derate above 25 °C		2.8	mW/°C
Operating Junction Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C

DEVICE MARKING

MMBD301LT1=4T

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage($I_R=10\mu\text{A}$)	$V_{(BR)R}$	30	—	—	Volts
Total Capacitance($V_R=15\text{V}, f=1.0\text{MHz}$)Figure1	C_T	—	0.9	1.5	pF
Reverse Leakage($V_R=25\text{V}$)Figure3	I_R	—	13	200	nAdc
Forward Voltage($I_F=1.0\text{mAdc}$)Figure4	V_F	—	0.38	0.45	Vdc
Forward Voltage($I_F=10\text{mAdc}$)Figure4	V_F	—	0.52	0.6	Vdc

NOTE:MMBD301LT1 is also available in bulk packaging. Use **MMBD301L** as the device title to order this device in bulk.

MMBD301LT1

TYPICAL ELECTRICAL CHARACTERISTICS

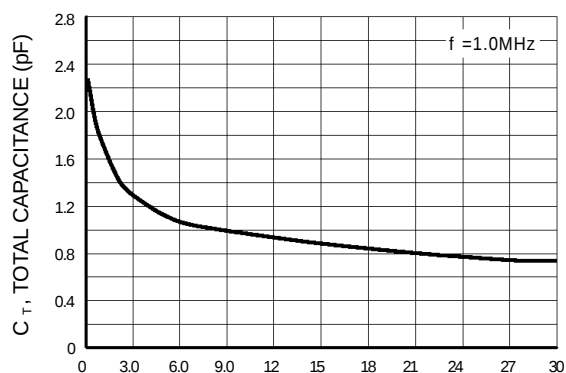


Figure 1. Total Capacitance

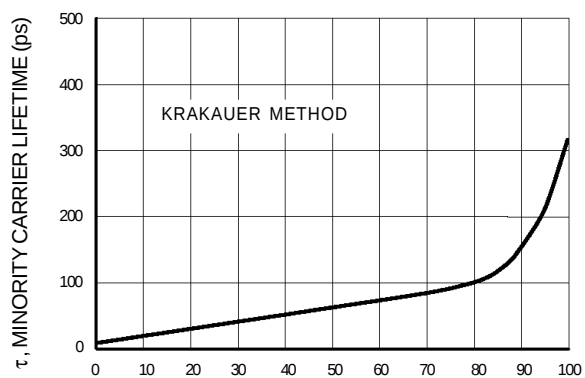


Figure 2. Minority Carrier Lifetime

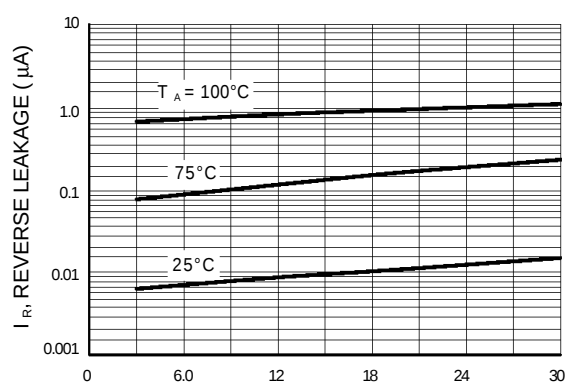


Figure 3. Reverse Leakage

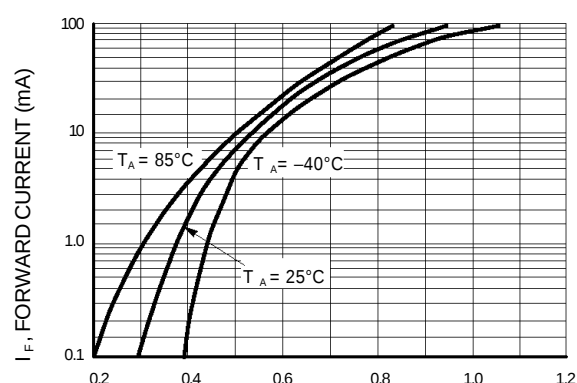


Figure 4. Forward Voltage

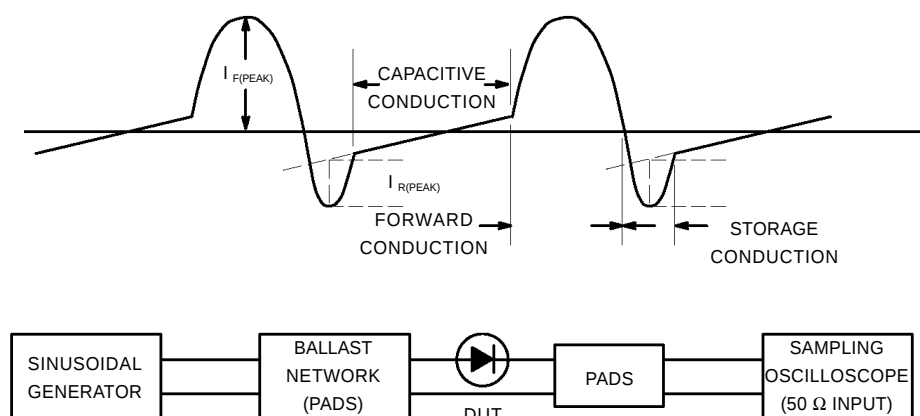


Figure 5. Krakauer Method of Measuring Lifetime