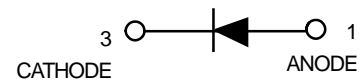


# Silicon Hot–Carrier Diodes

## 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)@V<sub>R</sub>=15V
- Low Reverse Leakage –I<sub>R</sub>=13 nAdc(Typ)
- We declare that the material of product compliance with RoHS requirements.



### MAXIMUM RATINGS(T<sub>J</sub>=125°C unless otherwise noted)

Rating	symbol	value		unit
Reverse Voltage	V <sub>R</sub>	30		Volts
Forward Power Dissipation	P <sub>F</sub>			
@TA=25 °C		280	200	mW
Derate above 25 °C		2.8	2.0	mW/°C
Operating Junction	T <sub>J</sub>			°C
Temperature Range		–55 to +125		
Storage Temperature Range	T <sub>stg</sub>	–55 to +150		°C

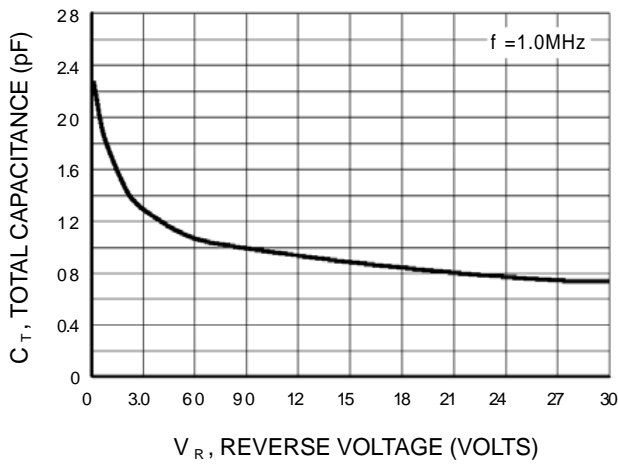
### DEVICE MARKING

FDR301 = 4T
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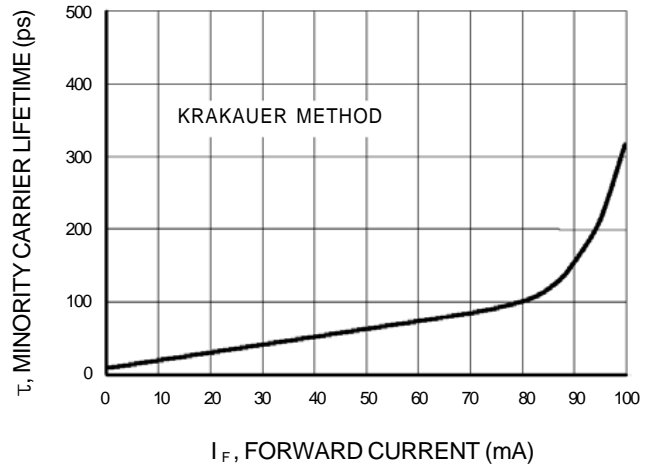
### ELECTRICAL CHARACTERISTICS(T<sub>A</sub>=25 °C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage(I <sub>R</sub> =10μA)	V <sub>(BR)R</sub>	30	—	—	Volts
Total Capacitance(V <sub>R</sub> =15V,f=1.0MHz,)Figure1	C <sub>T</sub>	—	0.9	1.5	pF
Reverse Leakage(V <sub>R</sub> =25V)Figure3	I <sub>R</sub>	—	13	200	nAdc
Forward Voltage(IF=1.0mAdc)Figure4	V <sub>F</sub>	—	0.38	0.45	Vdc
Forward Voltage(IF=10mAdc)Figure4	V <sub>F</sub>	—	0.52	0.6	Vdc

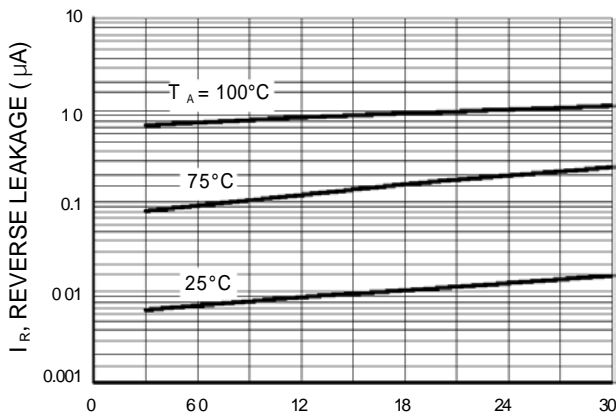
## TYPICAL ELECTRICAL CHARACTERISTICS



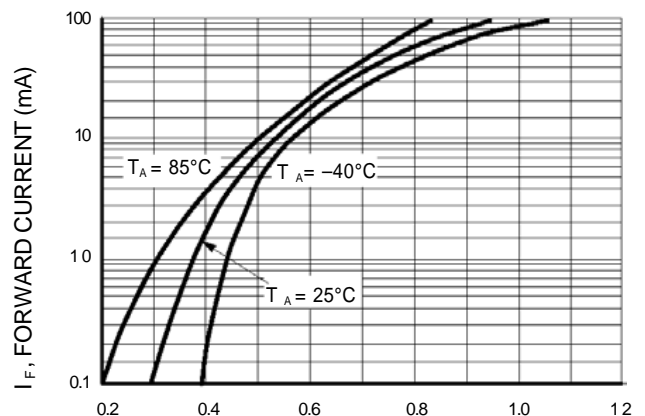
**Figure 1. Total Capacitance**



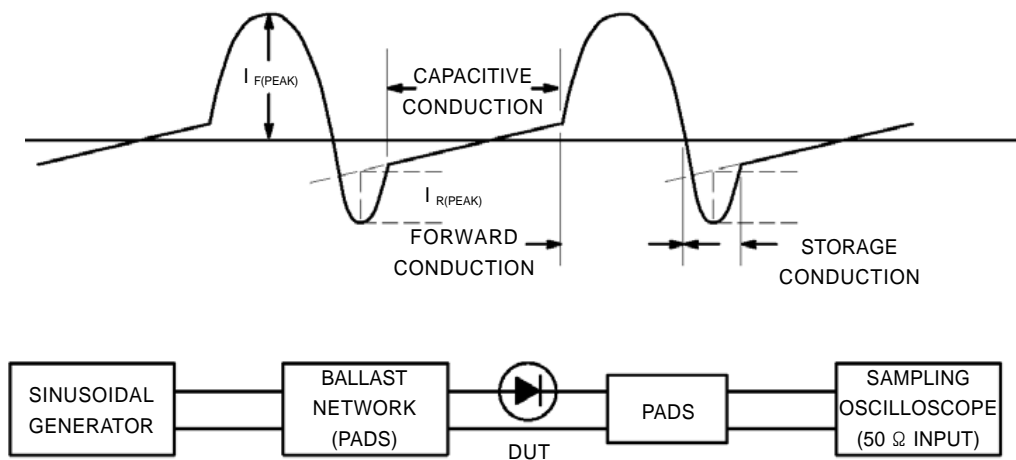
**Figure 2. Minority Carrier Lifetime**



**Figure 3. Reverse Leakage**

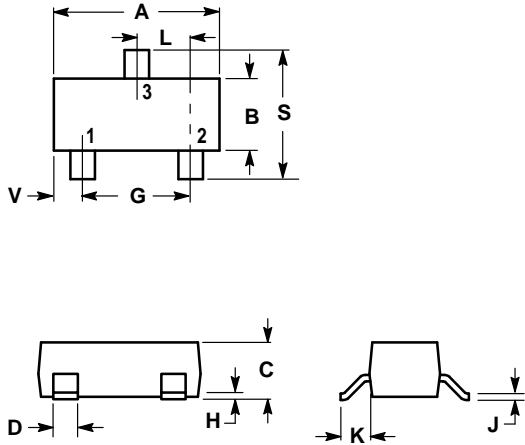


**Figure 4. Forward Voltage**



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

## SOT-23



### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

- PIN 1. ANODE  
 2. NO CONNECTION  
 3. CATHODE

