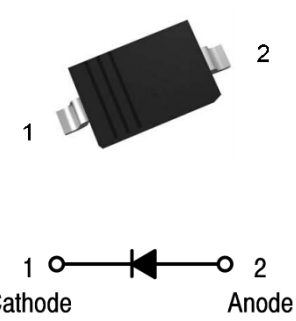
MMSD301 MMSD701

SOD-123 Schottky Barrier Diodes

The MMSD301, and MMSD701 devices are spin–offs of our popular MMBD301, and MMBD701SOT–23 devices. They are designed for high–efficiency UHF and VHF detector applications. Readily available to many other fast switching RF and digital applications.

- Extremely Low Minority Carrier Lifetime
- Very Low Capacitance
- Low Reverse Leakage



MAXIMUM RATINGS

Rating		Symbol	Value	Unit
Reverse Voltage	MMSD301 MMSD701	V_R	30 70	Vdc
Forward Power Dissipation T_A = 25°C		P_F	225	mW
Junction Temperature		T_J	–55 to +125	°C
Storage Temperature Range		T_{stg}	–55 to +150	°C

ELECTRICAL CHARACTERISTICS (TA = 25° C unless otherwise noted)

Characteristic		Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I_R = 10 µA)	 MMSD301 MMSD701	$V_{(BR)R}$	 30 70	 — —	 — —	Volts
Diode Capacitance (V_R = 0, f = 1.0 MHz, Note 1)	 MMSD301 MMSD701	C_T	 — —	 0.9 0.5	 1.5 1.0	pF
Total Capacitance (V_R = 15 Volts, f = 1.0 MHz) (V_R = 20 Volts, f = 1.0 MHz)	 MMSD301 MMSD701	C_T	 — —	 0.9 0.5	 1.5 1.0	pF
Reverse Leakage (V_R = 25 V) (V_R = 35 V)	 MMSD301 MMSD701	I_R	 — —	 13 9.0	 200 200	 nAdc nAdc
Forward Voltage (I_F = 1.0 mAdc) (I_F = 10 mA) (I_F = 1.0 mAdc) (I_F = 10 mA)	 MMSD301 MMSD701 	V_F	 — — — —	 0.38 0.52 0.42 0.7	 0.45 0.6 0.5 1.0	Vdc

TYPICAL CHARACTERISTICS

MMSD301

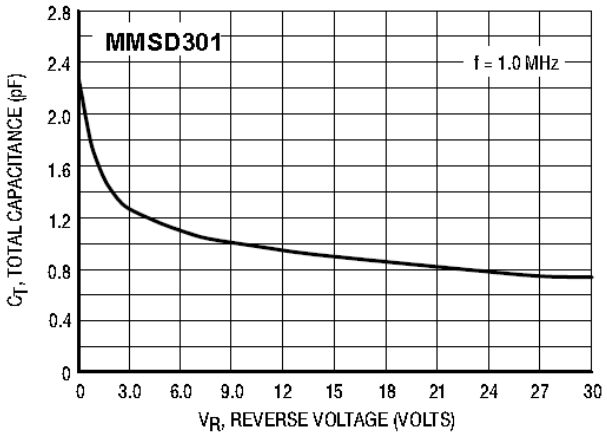


Figure 1. Total Capacitance

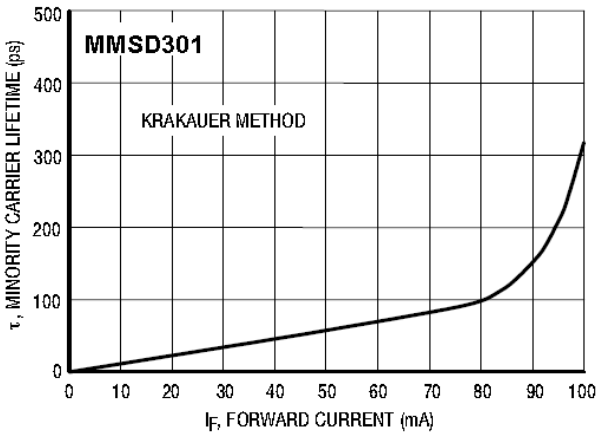


Figure 2. Minority Carrier Lifetime

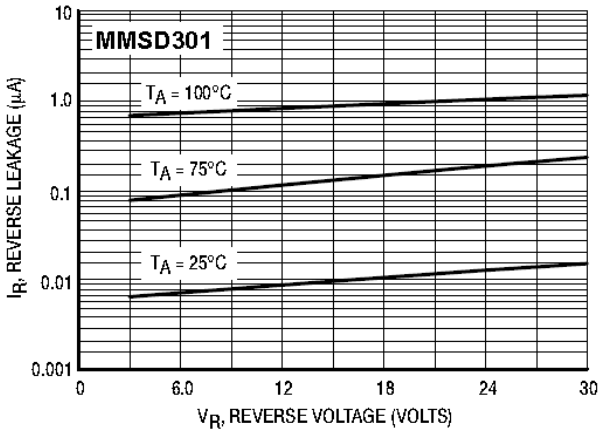


Figure 3. Reverse Leakage

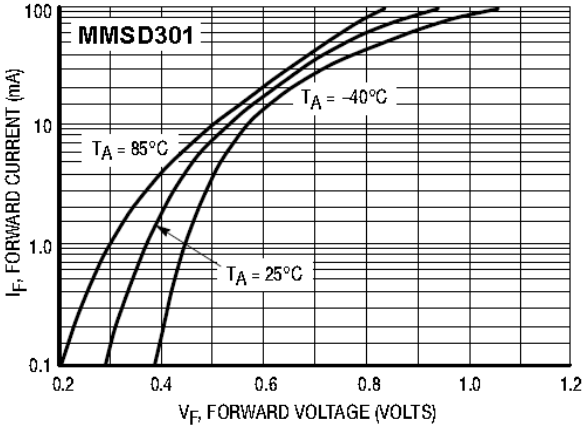


Figure 4. Forward Voltage

TYPICAL CHARACTERISTICS

MMSD701

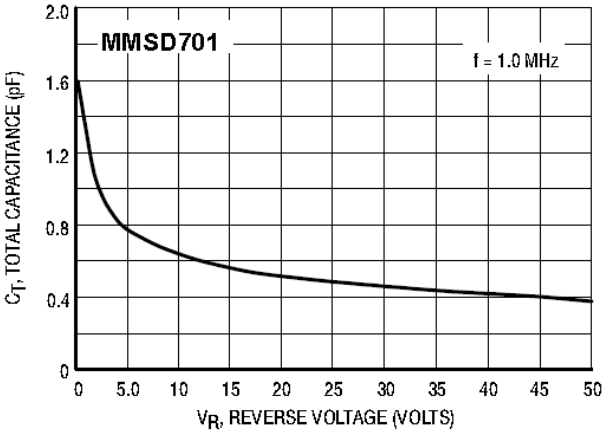


Figure 5. Total Capacitance

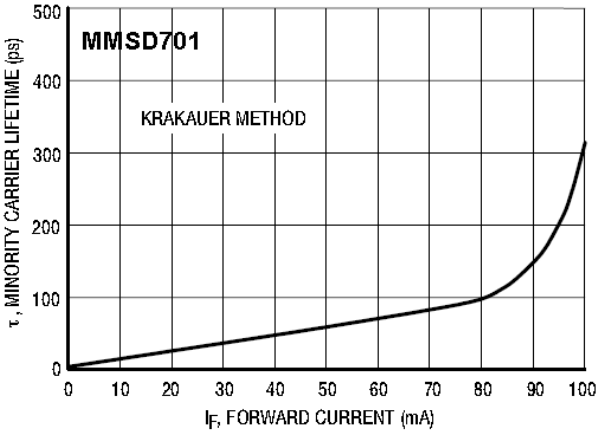


Figure 6. Minority Carrier Lifetime

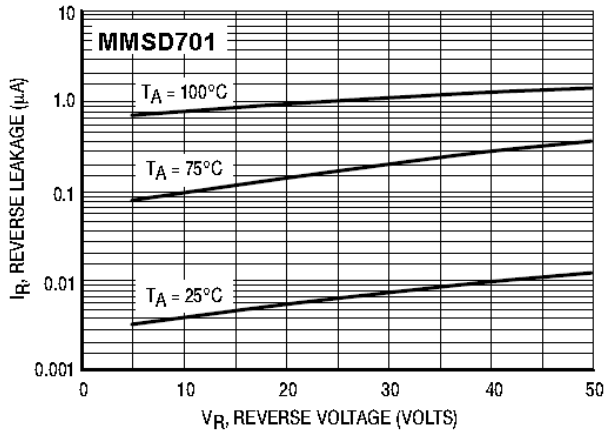


Figure 7. Reverse Leakage

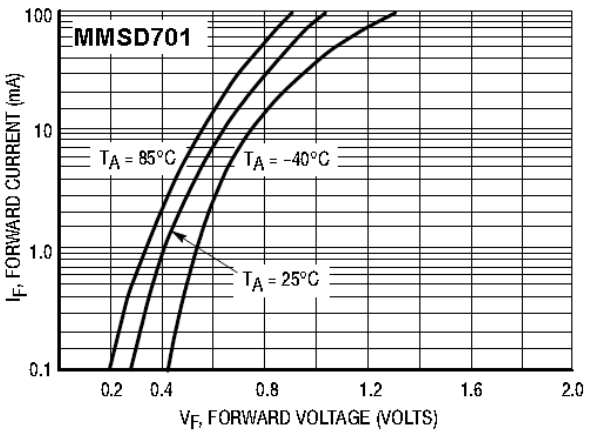
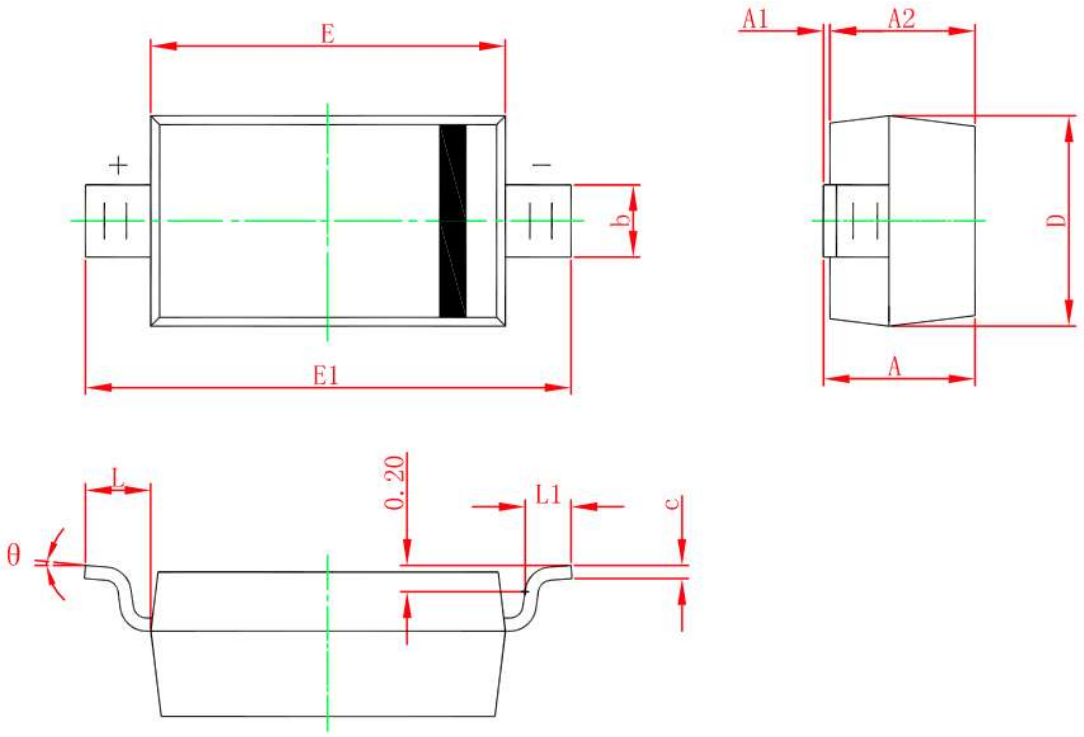


Figure 8. Forward Voltage



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF.		0.020 REF.	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°