

SOD-123 Schottky Barrier Diodes

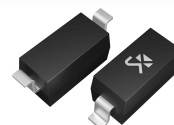
The MMSD301 and MMSD701 devices are spin-offs of our popular MMBD301L and MMBD701L SOT-23 devices. They are designed for high-efficiency UHF and VHF detector applications. Readily available to many other fast switching RF and digital applications.

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

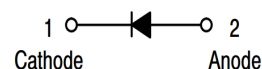
MAXIMUM RATINGS

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

MMSD301 MMSD701



CASE 425-04, STYLE 1
SOD-123



DEVICE MARKING

MMSD301 = XT, MMSD701 = XH

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 70	— —	— —	Volts
Diode Capacitance ($V_R = 0$, $f = 1.0\ \text{MHz}$, Note 1)	C_T	— —	0.9 0.5	1.5 1.0	pF
Total Capacitance ($V_R = 15\ \text{Volts}$, $f = 1.0\ \text{MHz}$) ($V_R = 20\ \text{Volts}$, $f = 1.0\ \text{MHz}$)	C_T	— —	0.9 0.5	1.5 1.0	pF
Reverse Leakage ($V_R = 25\ \text{V}$) ($V_R = 35\ \text{V}$)	I_R	— —	13 9.0	200 200	nAdc nAdc
Forward Voltage ($I_F = 1.0\ \text{mAdc}$) ($I_F = 10\ \text{mA}$) ($I_F = 1.0\ \text{mAdc}$) ($I_F = 10\ \text{mA}$)	V_F	— — — —	0.38 0.52 0.42 0.7	0.45 0.6 0.5 1.0	Vdc

TYPICAL CHARACTERISTICS MMSD301

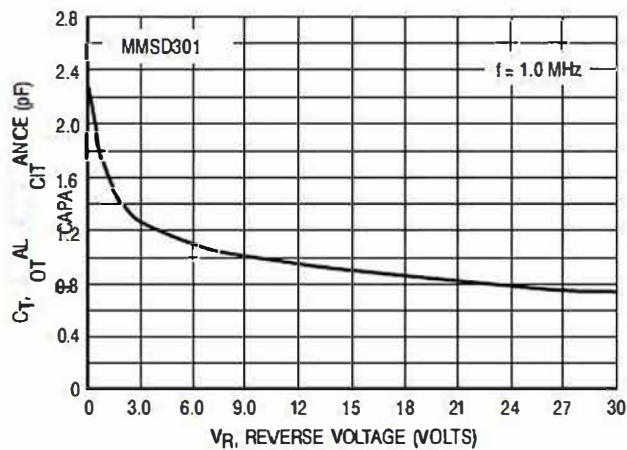


Figure 1. Total Capacitance

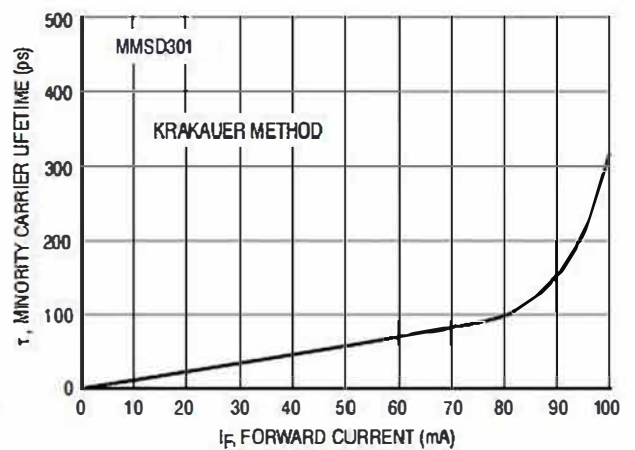


Figure 2. Minority Carrier Lifetime

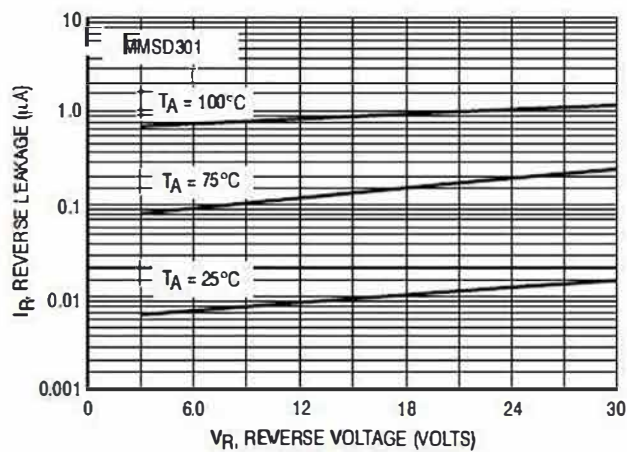


Figure 3. Reverse Leakage

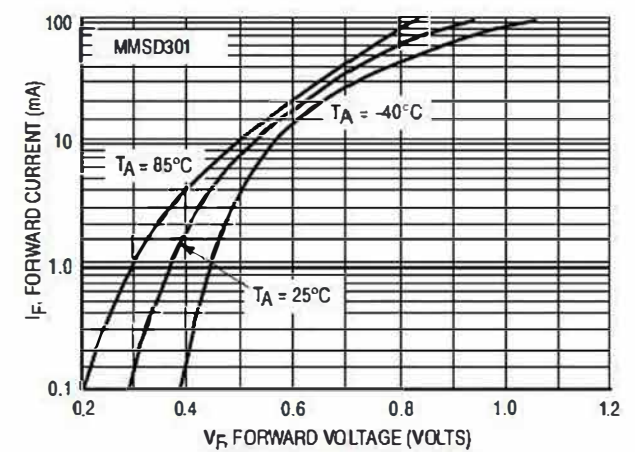


Figure 4. Forward Voltage

TYPICAL CHARACTERISTICS MMSD701

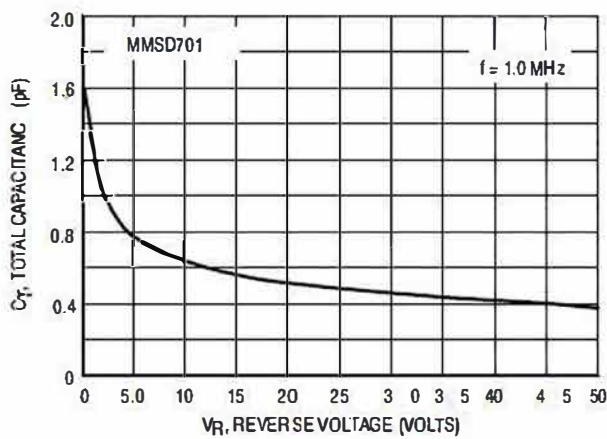


Figure 5. Total Capacitance

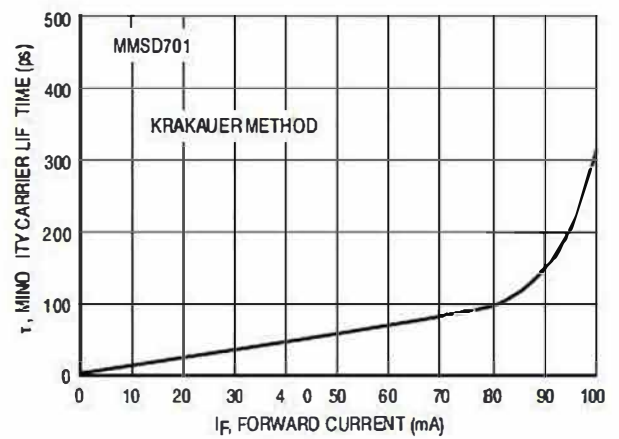


Figure 6. Minority Carrier Lifetime

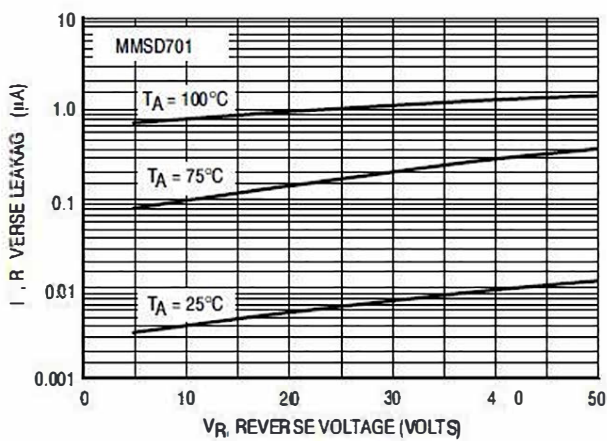


Figure 7. Reverse Leakage

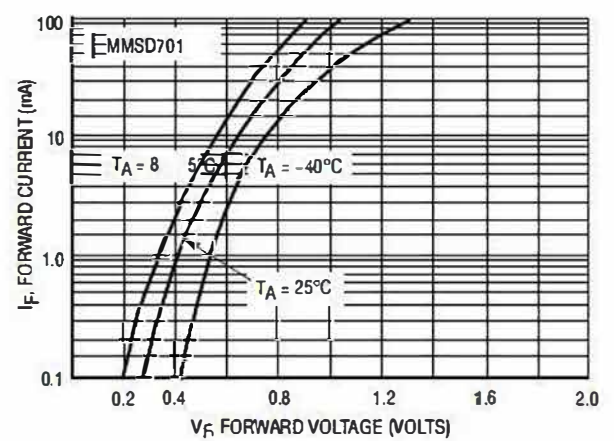
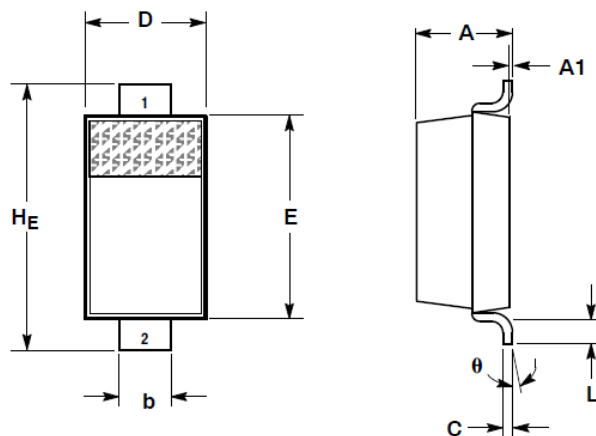
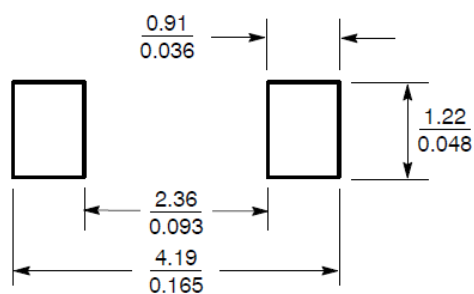


Figure 8. Forward Voltage

PACKAGE DIMENSIONS



SOLDERING FOOTPRINT*



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

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.94	1.17	1.35	0.037	0.046	0.053
A1	0.00	0.05	0.10	0.000	0.002	0.004
b	0.51	0.61	0.71	0.020	0.024	0.028
c	---	---	0.15	---	---	0.006
D	1.40	1.60	1.80	0.055	0.063	0.071
E	2.54	2.69	2.84	0.100	0.106	0.112
HE	3.56	3.68	3.86	0.140	0.145	0.152
L	0.25	---	---	0.010	---	---
θ	0	---	10°	0	---	10°