www.omseni.com

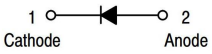
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MMSD301T1G, MMSD701T1G, SOD-123 Schottky Barrier Diodes

The MMSD301T1, and MMSD701T1 devices are spin−offs of our popular MMBD301LT1, and MMBD701LT1 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.



SOD−123
CASE 425
STYLE 1



Features

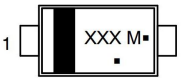
- Extremely Low Minority Carrier Lifetime
- Very Low Capacitance
- Low Reverse Leakage
- AEC Qualified and PPAP Capable
- S Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements
- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant*

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage MMSD301T1G, SMMSD301T1G MMSD701T1G, SMMSD701T1G	V_R	 30 70	Vdc
Forward Current (DC) Continous	I_F	200	mA
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

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

MARKING DIAGRAM



xx = Specific Device Code
XT = MMSD301T1G
XH = MMSD701T1G
= Date Code

▪ = Pb−Free Package

(Note: Microdot may be in either location)

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

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I_R = 10 μA) MMSD301T1G, MMSD701T1G,	$V_{(BR)R}$	30 70	– –	– –	V
Diode Capacitance (V_R = 0 V, f = 1.0 MHz) MMSD301T1G, MMSD701T1G,	C_T	– –	0.9 0.5	1.5 1.0	pF
Total Capacitance (V_R = 15 V, f = 1.0 MHz) MMSD301T1G, (V_R = 20 V, f = 1.0 MHz) MMSD701T1G,	C_T	– –	0.9 0.5	1.5 1.0	pF
Reverse Leakage (V_R = 25 V) MMSD301T1G, (V_R = 35 V) MMSD701T1G,	I_R	– –	13 9.0	200 200	nAdc
Forward Voltage (I_F = 1.0 mAdc) MMSD301T1G, (I_F = 10 mA) (I_F = 1.0 mAdc) MMSD701T1G, (I_F = 10 mA)	V_F	– – – –	0.38 0.52 0.42 0.7	0.45 0.6 0.5 1.0	Vdc

TYPICAL CHARACTERISTICS
MMSD301T1G, SMMSD301T1G

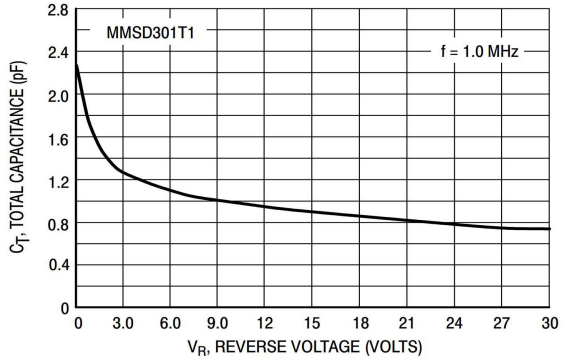


Figure 1. Total Capacitance

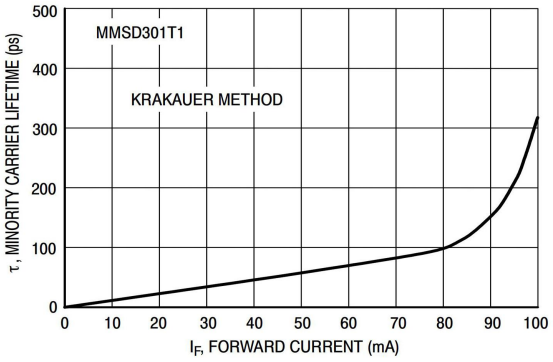


Figure 2. Minority Carrier Lifetime

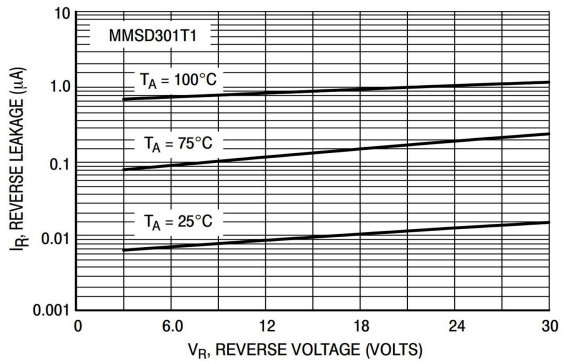


Figure 3. Reverse Leakage

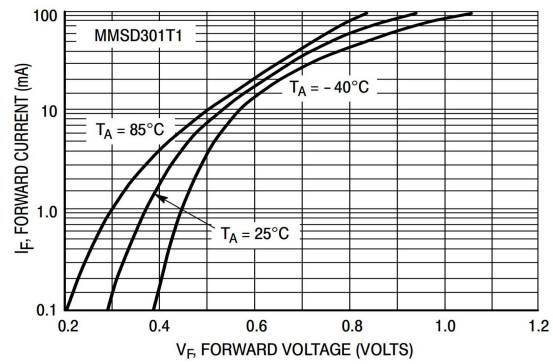


Figure 4. Forward Voltage

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TYPICAL CHARACTERISTICS
MMSD701T1G, SMMSD701T1G

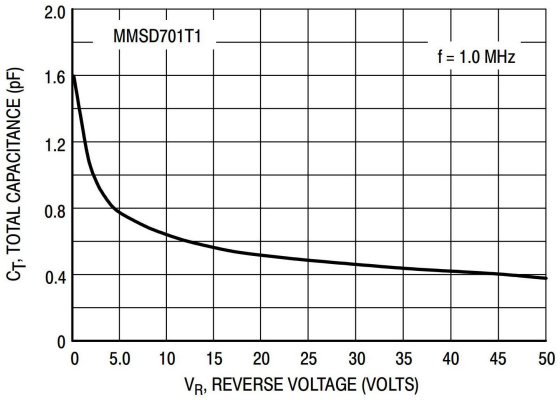


Figure 5. Total Capacitance

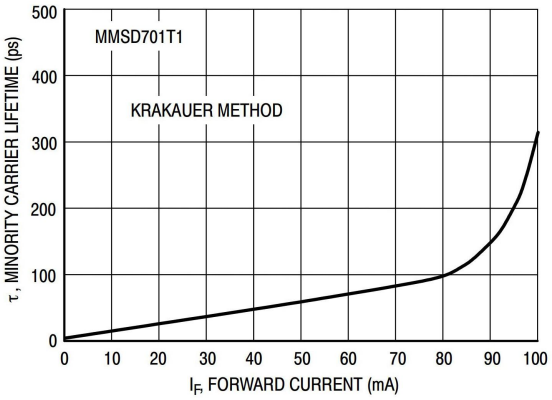


Figure 6. Minority Carrier Lifetime

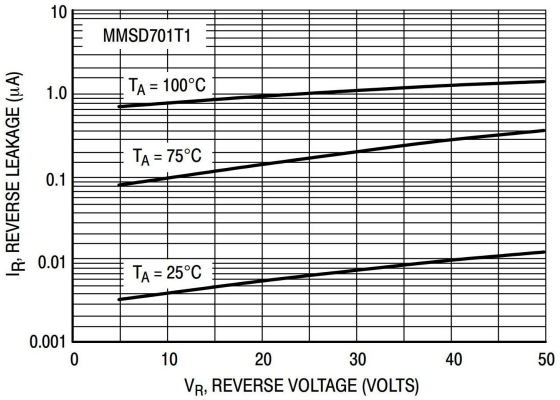


Figure 7. Reverse Leakage

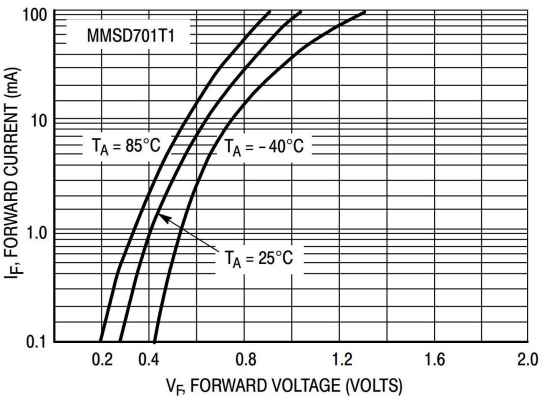


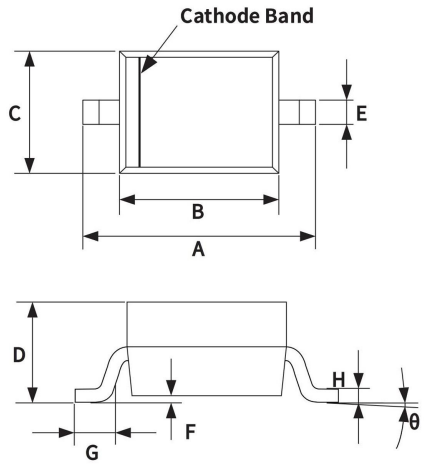
Figure 8. Forward Voltage

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Ordering Information

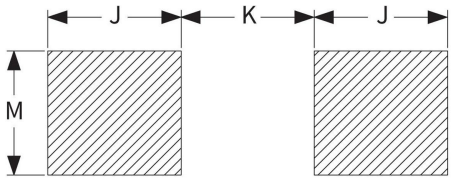
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-123	R1	0.012	3000	30000	240000	7''

Package Outline Dimensions (SOD-123)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.55	3.85	0.140	0.152
B	2.55	2.85	0.100	0.112
C	1.40	1.80	0.055	0.071
D	0.95	1.35	0.140	0.152
E	0.51	0.71	0.037	0.053
F	-	0.15	-	0.006
G	0.15	0.45	0.006	0.008
H	0.08	0.25	0.003	0.010
θ	-	8°	-	8°

Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.91	-	0.036	-
K	-	2.36	-	0.092
M	1.22	-	0.048	-