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MMBD330T1G, MMBD770T1G, Schottky Barrier Diodes

Schottky barrier diodes are designed primarily for high−efficiency UHF and VHF detector applications. Readily available to many other fast switching RF and digital applications. They are housed in the SOT−323/SC−70 package which is designed for low−power surface mount applications.

Features

- Extremely Low Minority Carrier Lifetime
- Very Low Capacitance
- Low Reverse Leakage
- Available in 8 mm Tape and Reel
- 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

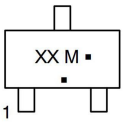
Rating	Symbol	Value	Unit
Reverse Voltage MMBD330T1G, MMBD770T1G,	V_R	 30 70	Vdc
Forward Continuous Current (DC)	I_F	200	mA
Nonrepetitive Peak Forward Current (Note 1)	I_{FSM}	1.0	A
Forward Power Dissipation T_A = 25°C	P_F	 120	mW
Junction Temperature	T_J	−55 to +125	°C
Storage Temperature Range	T_{stg}	−55 to +150	°C



SC−70/SOT−323
CASE 419



MARKING DIAGRAMS



XX = Specific Device Code
4T = MMBD330T1
5H = MMBD770T1
M = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

*Date Code orientation may vary depending upon the manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping†
MMBD330T1G	SC−70 (Pb−Free)	3,000/Tape & Reel
SMMBD330T1G	SC−70 (Pb−Free)	3,000/Tape & Reel
MMBD770T1G	SC−70 (Pb−Free)	3,000/Tape & Reel
SMMBD770T1G	SC−70 (Pb−Free)	3,000/Tape & Reel

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TYPICAL CHARACTERISTICS
MMBD330T1G, SMMBD330T1G

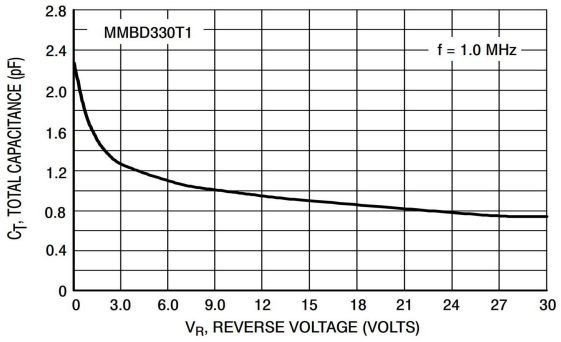

Figure 1. Total Capacitance

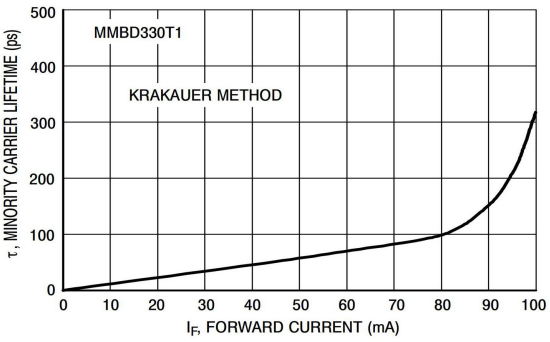

Figure 2. Minority Carrier Lifetime

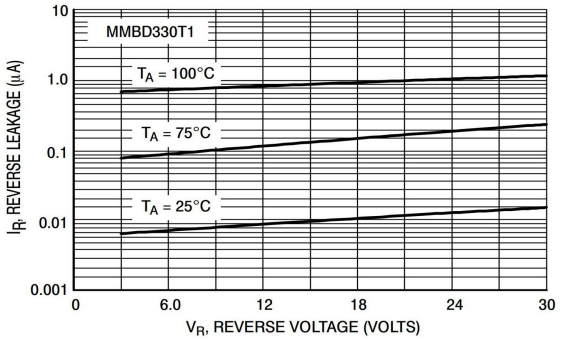

Figure 3. Reverse Leakage

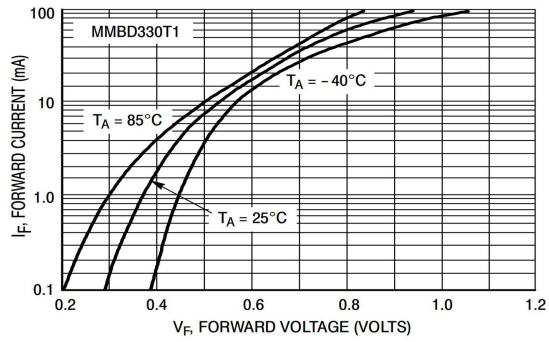

Figure 4. Forward Voltage

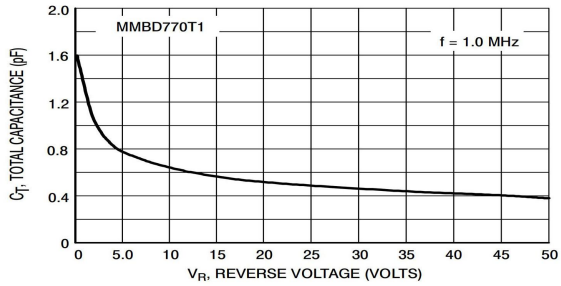

Figure 5. Total Capacitance

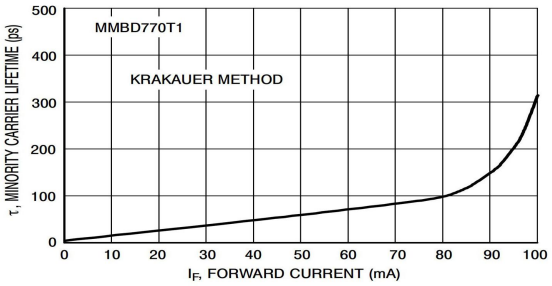

Figure 6. Minority Carrier Lifetime

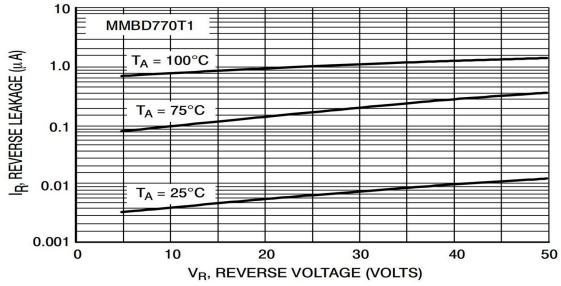

Figure 7. Reverse Leakage

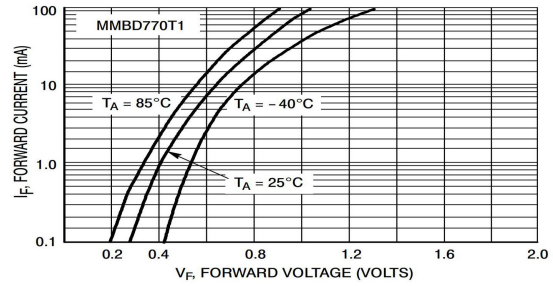

Figure 8. Forward Voltage

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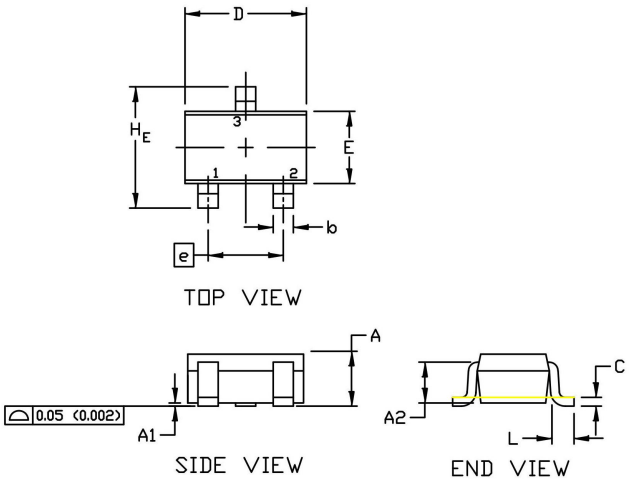
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I_R = 10 μA) MMBD330T1G, MMBD770T1G,	$V_{(BR)R}$	 30 70	 – –	 – –	Volts
Diode Capacitance (V_R = 15 Volts, f = 1.0 MHZ) MMBD330T1G, (V_R = 20 Volts, f = 1.0 MHZ) MMBD770T1G,	C_T	 – –	 0.9 0.5	 1.5 1.0	pF
Reverse Leakage (V_R = 25 V) MMBD330T1G, (V_R = 35 V) MMBD770T1G,	I_R	 – –	 13 9.0	 200 200	nAdc
Forward Voltage (I_F = 1.0 mAdc) MMBD330T1G, (I_F = 10 mA) (I_F = 1.0 mAdc) MMBD770T1G, (I_F = 10 mA)	V_F	 – – – –	 0.38 0.52 0.42 0.70	 0.45 0.60 0.50 1.0	Vdc





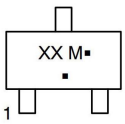
SCALE 4:1

SC–70 (SOT–323)
CASE 419
ISSUE P

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

	MILLIMETERS			INCHES		
DIM	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.70 REF			0.028 BSC		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.20	0.38	0.56	0.008	0.015	0.022
H_E	2.00	2.10	2.40	0.079	0.083	0.095

GENERIC MARKING DIAGRAM



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