

Schottky Barrier Diode

MMDL770T1G

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.

Features

- Extremely Low Minority Carrier Lifetime
- Very Low Capacitance – 1.0 pF @ 20 V
- Low Reverse Leakage – 200 nA (max)
- High Reverse Voltage – 70 V (min)
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

MAXIMUM RATINGS

Symbol	Rating	Value	Unit
V_R	Reverse Voltage	70	Vdc

THERMAL CHARACTERISTICS

Symbol	Characteristic	Max	Unit
P_D	Total Device Dissipation FR-5 Board, (Note 1) @ $T_A = 25^\circ\text{C}$ Derate above 25°C	200 1.57	mW mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	635	$^\circ\text{C}/\text{W}$
T_J, T_{stg}	Junction and Storage Temperature Range	-55 to +150	$^\circ\text{C}$

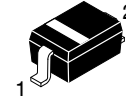
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. FR-5 Minimum Pad

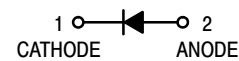
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Characteristic	Min	Typ	Max	Unit
$V_{(BR)R}$	Reverse Breakdown Voltage ($I_R = 10 \mu\text{A}$)	70	–	–	V
C_T	Diode Capacitance ($V_R = 20 \text{ V}$, $f = 1.0 \text{ MHz}$)	–	0.5	1.0	pF
I_R	Reverse Leakage ($V_R = 35 \text{ V}$)	–	9.0	200	nAdc
V_F	Forward Voltage ($I_F = 1.0 \text{ mAdc}$) ($I_F = 10 \text{ mA}$)	– –	0.42 0.7	0.5 1.0	Vdc

1.0 pF SCHOTTKY BARRIER DIODE



SOD-323
CASE 477
STYLE 1



MARKING DIAGRAM



5H = Device Code
M = Date Code*
▪ = Pb-Free Package

(Note: Microdot may be in either location)

*Date Code orientation may vary depending upon manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping [†]
MMDL770T1G	SOD-323 (Pb-Free)	3000 / Tape & Reel

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

MMDL770T1G

TYPICAL CHARACTERISTICS

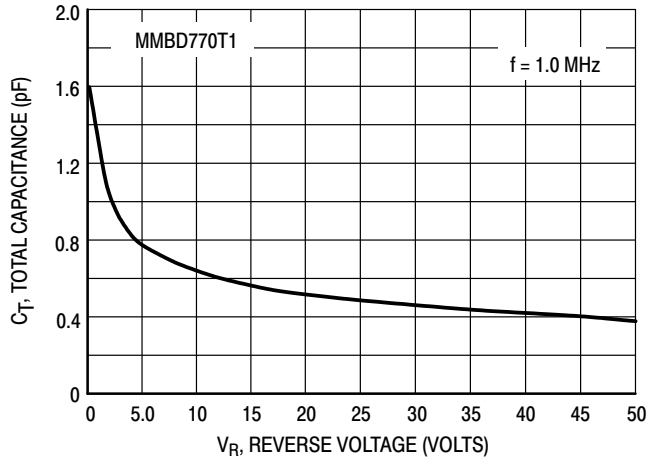


Figure 1. Total Capacitance

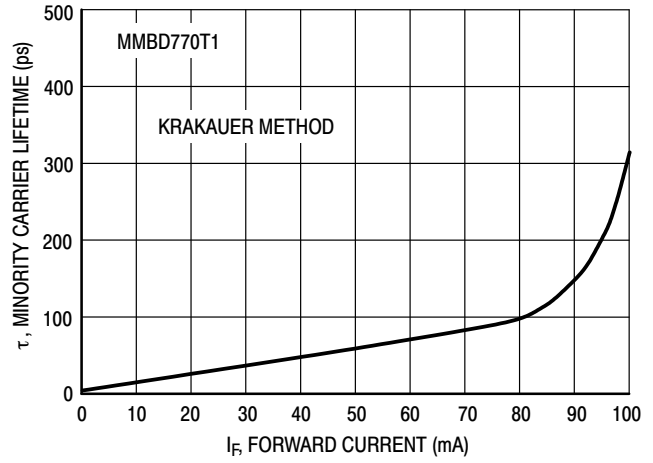


Figure 2. Minority Carrier Lifetime

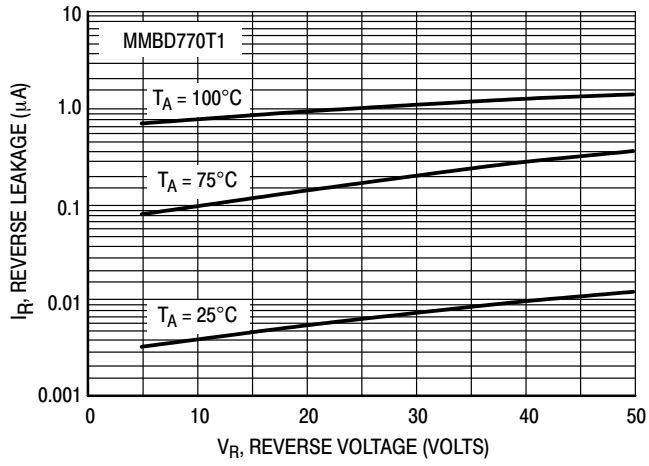


Figure 3. Reverse Leakage

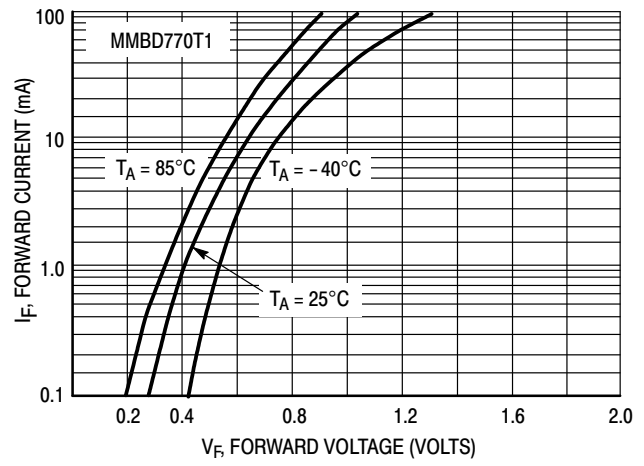
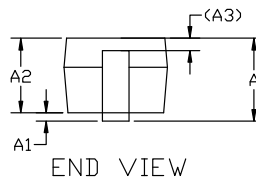


Figure 4. Forward Voltage


SOD-323 1.70x1.25x0.85
CASE 477
ISSUE K

DATE 11 MAR 2024



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference manual, SOLDERRM/D.

NOTES:

1. DIMENSIONING AND TOLERANCING AS PER ASME Y14.5M, 2018.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURE FROM END OF RADIUS.

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.80	0.90	1.00
A1	0.00	0.05	0.10
A2	0.75	0.85	0.95
A3	0.15 (REF)		
b	0.25	0.32	0.4
c	0.09	0.12	0.18
D	1.60	1.70	1.80
E	1.15	1.25	1.35
H	2.30	2.50	2.70
L	0.08	---	---
L1	0.40 (REF)		

GENERIC
MARKING DIAGRAM*


XX = Specific Device Code
M = Date Code

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "•", may or may not be present. Some products may not follow the Generic Marking.

STYLE 1:
PIN 1: CATHODE (POLARITY BAND)
2: ANODE

STYLE 2:
NO POLARITY

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DESCRIPTION:	SOD-323 1.70x1.25x0.85	PAGE 1 OF 1

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