

# 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 $25^\circ\text{C}$	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	$^\circ\text{C}$

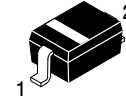
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

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 <sup>†</sup>
MMDL770T1G	SOD-323 (Pb-Free)	3000 / Tape & Reel

<sup>†</sup>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](http://BRD8011/D).

# MMDL770T1G

## TYPICAL CHARACTERISTICS

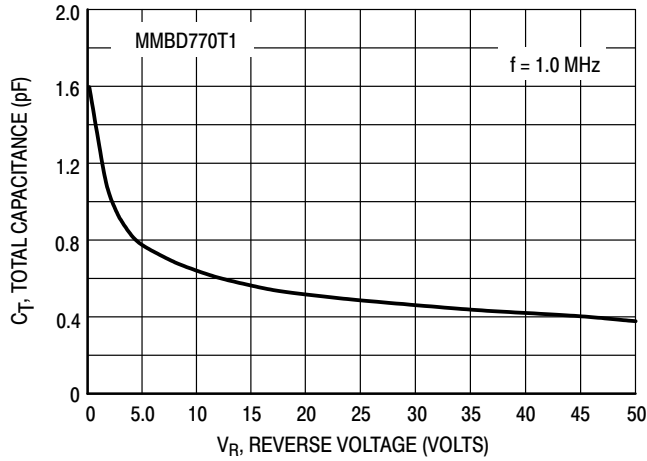


Figure 1. Total Capacitance

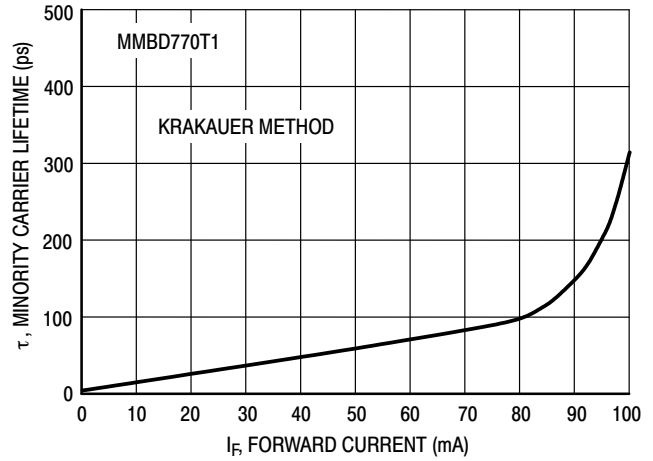


Figure 2. Minority Carrier Lifetime

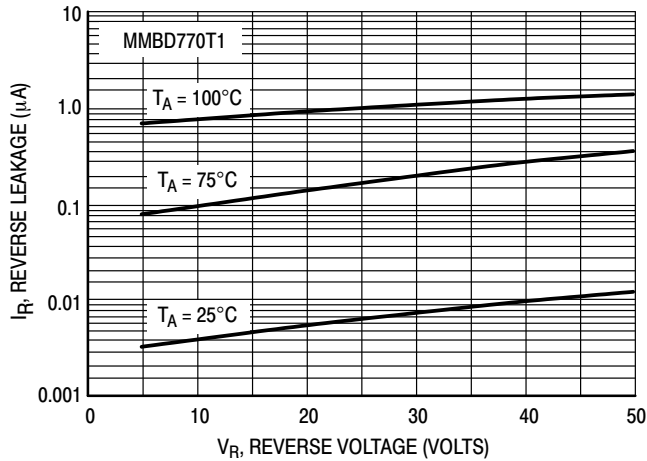


Figure 3. Reverse Leakage

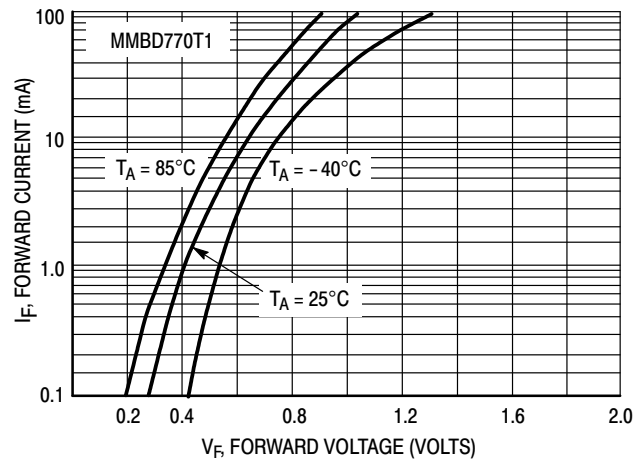
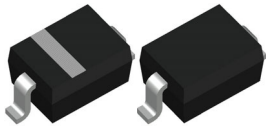
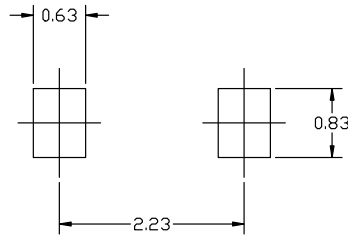
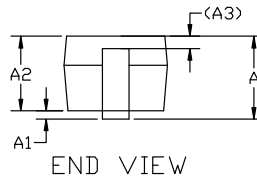
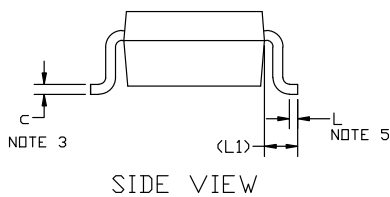
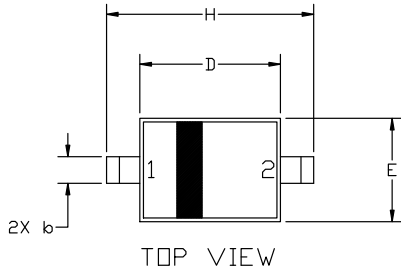


Figure 4. Forward Voltage



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

DATE 11 MAR 2024



RECOMMENDED MOUNTING FOOTPRINT

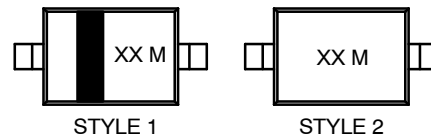
\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference manual, SOLDERRM/D.

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)      STYLE 2: NO POLARITY  
2. ANODE

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