Schottky Barrier Diodes

MBD101G, MMBD101LT1G

Designed primarily for UHF mixer applications but suitable also for use in detector and ultra−fast switching circuits. Supplied in an inexpensive plastic package for low−cost, high−volume consumer requirements. Also available in Surface Mount package.

Features

- Low Noise Figure − 6.0 dB Typ @ 1.0 GHz
- Very Low Capacitance − Less Than 1.0 pF
- High Forward Conductance − 0.5 V (Typ) @ I_F = 10 mA
- These Devices are Pb−Free and are RoHS Compliant

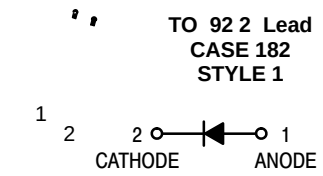
MAXIMUM RATINGS

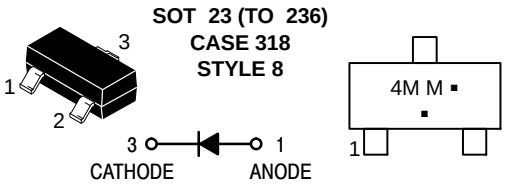
Rating	Symbol	Value	Unit
Reverse Voltage	V_R	7.0	V
Forward Power Dissipation T_A = 25°C MBD101 MMBD101LT1 Derate above 25°C MBD101 MMBD101LT1	P_F	 280 225 2.2 1.8	 mW mW/°C
Junction Temperature	T_J	+150	°C
Storage Temperature Range	T_{stg}	−	

		−	0.5	0.6	V
Reverse Leakage (V_R = 3.0 V)	I_R	−	0.02	0.25	μA

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

MARKING DIAGRAMS





(Pin 2 Not Connected)

A = Assembly Location
Y = Year
W = Work Week
4M = Device Code (SOT−23)
M = Date Code*
▪ = Pb−Free Package

(Note: Microdot may be in either location)
*Date Code orientation and/or overbar may vary depending upon manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping†
MBD101G	TO−92 (Pb−Free)	5000 Units / Box
MMBD101LT1G	SOT−23 (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 Specifications Brochure, BRD8011/D.

TYPICAL CHARACTERISTICS

(T_A = 25°C unless noted)

T_A, AMBIENT TEMPERATURE (°C)

Figure 1. Reverse Leakage

V_F, FORWARD VOLTAGE (VOLTS)

Figure 2. Forward Voltage

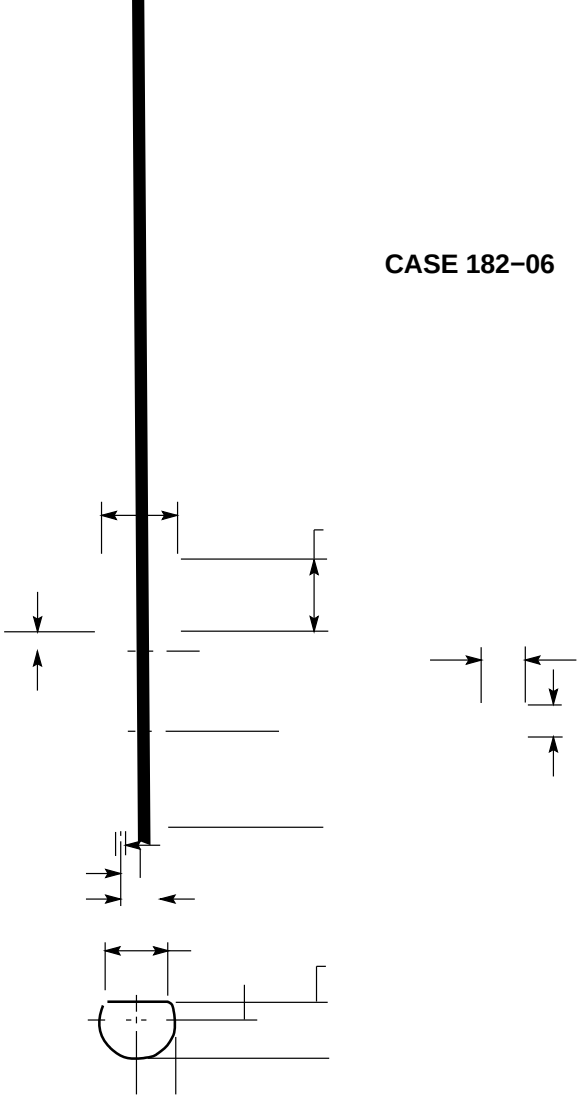
V_R, REVERSE VOLTAGE (VOLTS)

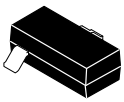
Figure 3. Capacitance

P_{LO}, LOCAL OSCILLATOR POWER (mW)

Figure 4. Noise Figure

CASE 182−06





SCALE 4:1

SOT 23 (TO 236) 2.90x1.30x1.00 1.90P
CASE 318
ISSUE AU

DATE 14 AUG 2024

SOT 23 (TO 236) 2.90x1.30x1.00 1.90P
CASE 318
ISSUE AU

DATE 14 AUG 2024

STYLE 6:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

STYLE 7:
PIN 1. EMITTER
2. BASE
3. COLLECTOR

STYLE 8:
PIN 1. ANODE
2. NO CONNECTION
3. CATHODE

STYLE 9:
PIN 1. ANODE
2. ANODE
3. CATHODE

STYLE 10:
PIN 1. DRAIN
2. SOURCE
3. GATE

STYLE 11:
PIN 1. ANODE
2. CATHODE
3. CATHODE−ANODE

STYLE 12:
PIN 1. CATHODE
2. CATHODE
3. ANODE

STYLE 13:
PIN 1. SOURCE
2. DRAIN
3. GATE

STYLE 14:
PIN 1. CATHODE
2. GATE
3. ANODE

STYLE 15:
PIN 1. GATE
2. CATHODE
3. ANODE

STYLE 16:
PIN 1. ANODE
2. CATHODE
3. CATHODE

STYLE 17:
PIN 1. NO CONNECTION
2. ANODE
3. CATHODE

STYLE 18:
PIN 1. NO CONNECTION
2. CATHODE
3. ANODE

STYLE 19:
PIN 1. CATHODE
2. ANODE
3. CATHODE−ANODE

STYLE 22:
PIN 1. RETURN
2. OUTPUT
3. INPUT

STYLE 23:
PIN 1. ANODE
2. ANODE
3. CATHODE
3.