# MMBD717LT1

Preferred Device

# **Common Anode Schottky Barrier Diodes**

These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand held and portable applications where space is limited.

#### **Features**

- Extremely Fast Switching Speed
- Extremely Low Forward Voltage -0.28 V (Typ) @  $I_F = 1 \text{ mAdc}$
- Pb-Free Package is Available

# **MAXIMUM RATINGS** (T<sub>J</sub> = 125°C unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V <sub>R</sub>	20	V
Forward Power Dissipation @ T <sub>A</sub> = 25°C Derate above 25°C	P <sub>F</sub>	200 1.6	mW mW/°C
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

# **ELECTRICAL CHARACTERISTICS** (T<sub>A</sub> = 125°C unless otherwise noted)

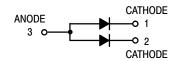
Rating	Symbol	Min	Тур	Max	Unit
Reverse Breakdown Voltage (I <sub>R</sub> = 10 μA)	V <sub>(BR)R</sub>	20	-	-	V
Total Capacitance (V <sub>R</sub> = 1.0 V, f = 1.0 MHz)	C <sub>T</sub>	-	2.0	2.5	P <sub>F</sub>
Reverse Leakage (V <sub>R</sub> = 10 V) (For each individual diode while the second diode is unbiased)	I <sub>R</sub>	-	0.05	1.0	μAdc
Forward Voltage (I <sub>F</sub> = 1.0 mAdc)	V <sub>F</sub>	_	0.28	0.37	Vdc



# ON Semiconductor®

http://onsemi.com

# 20 VOLT SCHOTTKY BARRIER DETECTOR AND SWITCHING DIODES





SC-70 / SOT-323 CASE 419 STYLE 4

#### MARKING DIAGRAM



B3 = Device Code 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.

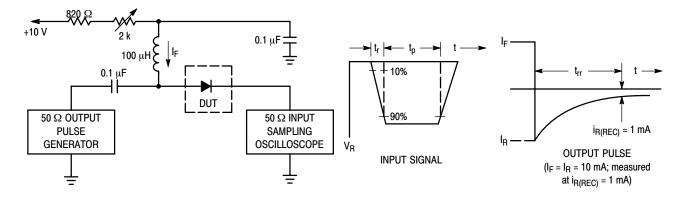
#### ORDERING INFORMATION

Device	Package	Shipping <sup>†</sup>
MMBD717LT1	SC-70	3,000 / Tape & Reel
MMBD717LT1G	SC-70 (Pb-Free)	3,000 / 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.

**Preferred** devices are recommended choices for future use and best overall value.

# MMBD717LT1



NOTES: 1. A 2.0 k $\Omega$  variable resistor adjusted for a Forward Current (I<sub>F</sub>) of 10 mA.

- 2. Input pulse is adjusted so I<sub>R(peak)</sub> is equal to 10 mA.
- 3.  $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

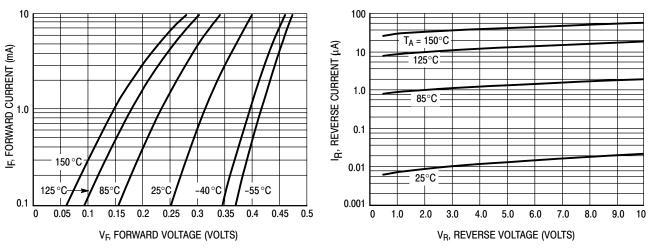
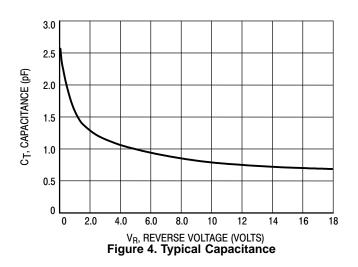


Figure 2. Typical Forward Voltage

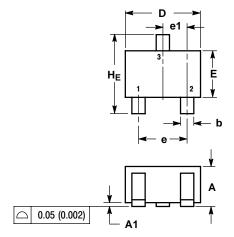
Figure 3. Reverse Current versus Reverse Voltage

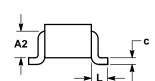


#### MMBD717LT1

### PACKAGE DIMENSIONS

SC-70 / SOT-323 CASE 419-04 ISSUE M





#### NOTES

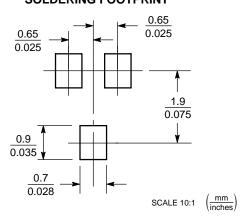
- DIMENSIONING AND TOLERANCING PER ANSI
- Y14.5M, 1982.
  2. CONTROLLING DIMENSION: INCH.

	MILLIMETERS			INCHES		
DIM	MIN	MOM	MAX	MIN	MOM	MAX
Α	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		0.7 REF 0.028 REF			=	
b	0.30	0.35	0.40	0.012	0.014	0.016
С	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
Е	1.15	1.24	1.35	0.045	0.049	0.053
е	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC		0.026 BSC			
Г	0.425 REF			0.017 REF		
ΗE	2.00	2.10	2.40	0.079	0.083	0.095

PIN 1. CATHODE

2. CATHODE 3. ANODE

# **SOLDERING 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.

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