

MBD770DWT1G, NSVMBD770DWT1G

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
- Low Forward Voltage
- AEC Qualified and PPAP Capable
- NSV 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 ($T_J = 150^{\circ}\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
Forward Current	I_F	100	mA
Non-Repetitive Peak Forward Surge Current (60 Hz Half Sine)	I_{FSM}	1	A
Reverse Voltage	V_R	70	V
Forward Power Dissipation @ $T_A = 25^{\circ}\text{C}$ Derate above 25°C (Note 1)	P_F	380 3	mW mW/ $^{\circ}\text{C}$
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to +150	$^{\circ}\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

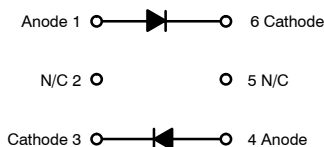
1. FR4 @ 100 mm², 1 oz Cu



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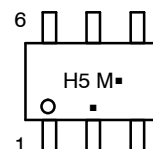
70 VOLTS SCHOTTKY BARRIER DIODES



MARKING DIAGRAM



SOT-363
CASE 419B
STYLE 6



M = Date Code
▪ = Pb-Free Package

(*Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
MBD770DWT1G	SOT-363 (Pb-Free)	3000 / Tape & Reel
NSVMBD770DWT1G	SOT-363 (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.

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

Characteristic	Symbol	Min	Max	Unit
Reverse Breakdown Voltage ($I_R = 10\ \mu\text{A}$)	$V_{(BR)R}$	70	–	V
Total Capacitance ($V_R = 20\ \text{V}$, $f = 1.0\ \text{MHz}$)	C_T	–	1.0	pF
Reverse Leakage ($V_R = 35\ \text{V}$)	I_R	–	200	nA
Forward Voltage ($I_F = 1.0\ \text{mA}$)	V_F	–	500	mV
Forward Voltage ($I_F = 10\ \text{mA}$)	V_F	–	1.0	V

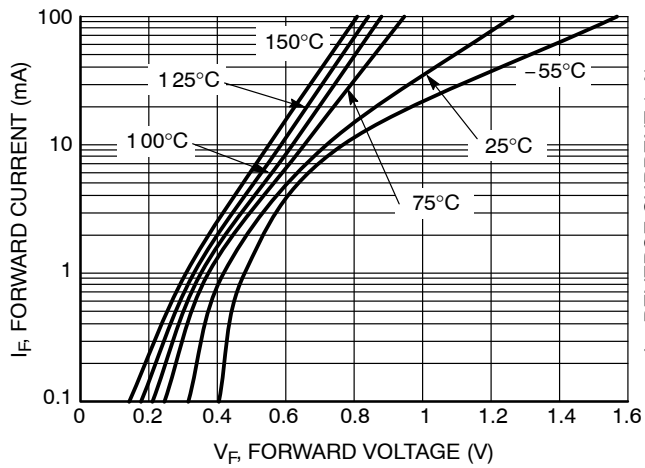


Figure 1. Typical Forward Voltage

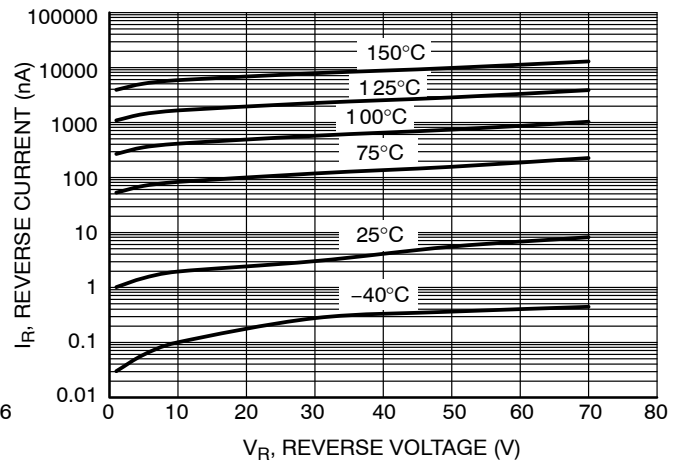


Figure 2. Reverse Current versus Reverse Voltage

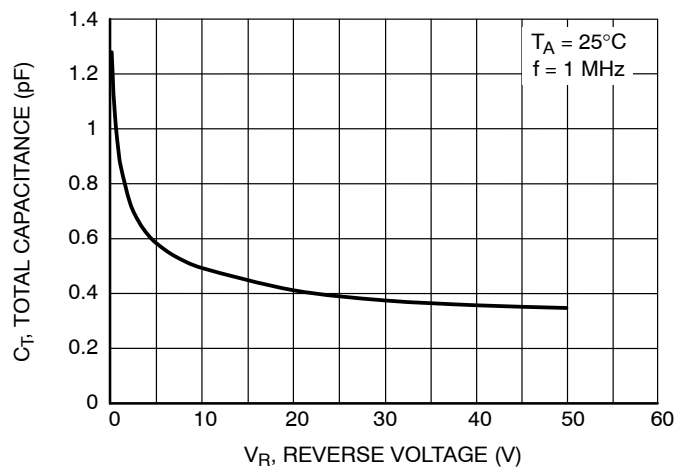
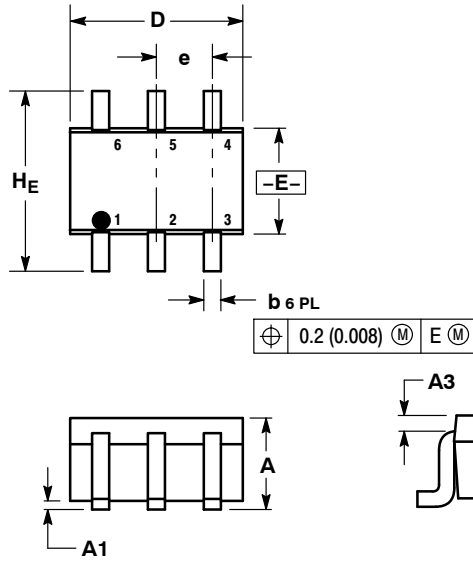


Figure 3. Typical Capacitance

MBD770DWT1G, NSVMBD770DWT1G

PACKAGE DIMENSIONS

SC-88/SC70-6/SOT-363
CASE 419B-02
ISSUE W



NOTES:

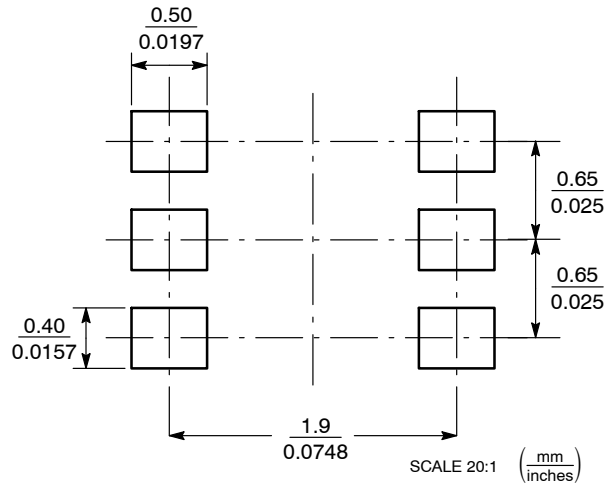
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 419B-01 OBSOLETE, NEW STANDARD 419B-02.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.95	1.10	0.031	0.037	0.043
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3	0.20 REF			0.008 REF		
b	0.10	0.21	0.30	0.004	0.008	0.012
C	0.10	0.14	0.25	0.004	0.005	0.010
D	1.80	2.00	2.20	0.070	0.078	0.086
E	1.15	1.25	1.35	0.045	0.049	0.053
e	0.65 BSC			0.026 BSC		
L	0.10	0.20	0.30	0.004	0.008	0.012
HE	2.00	2.10	2.20	0.078	0.082	0.086

STYLE 6:

- PIN 1. ANODE 2
2. N/C
3. CATHODE 1
4. ANODE 1
5. N/C
6. CATHODE 2

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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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

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moschip.ru_9