



MMBD7000HS/HC

DUAL SURFACE MOUNT SWITCHING DIODE

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications
- **High Conductance**
- Lead, Halogen and Antimony Free, RoHS Compliant (Note 3)
- "Green" Device (Note 4)

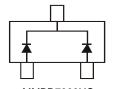
Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating) Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.008 grams (approximate)

SOT-23







TOP VIEW

MMBD7000HS

MMBD7000HC

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V _{RRM} V _R WM V _R	100	٧
RMS Reverse Voltage		V _{R(RMS)}	71	V
Forward Continuous Current (Note 1)		I _{FM}	300	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0s	I _{FSM}	2.0 1.0	А

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P_{D}	350	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{ hetaJA}$	357	°C/W
Operating and Storage Temperature Range	T_J, T_STG	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	V _{(BR)R}	100	_	V	$I_R = 100 \mu A$
Forward Voltage	V _F	0.55 0.67 0.75	0.70 0.82 1.10 1.25	V	I _F = 1.0mA I _F = 10mA I _F = 50mA I _F = 150mA
Reverse Current (Note 2)	I _R	l	1.0 3.0 100 25	μΑ μΑ μΑ nA	$V_{R} = 50V$ $V_{R} = 100V$ $V_{R} = 50V, T_{J} = 125^{\circ}C$ $V_{R} = 20V$
Total Capacitance	Ст	_	2.0	pF	$V_R = 0$, $f = 1.0MHz$
Reverse Recovery Time	t _{rr}		4.0	ns	$I_F = I_R = 10 \text{mA},$ $I_{rr} = 0.1 \text{ x } I_R, R_L = 100 \Omega$

Notes:

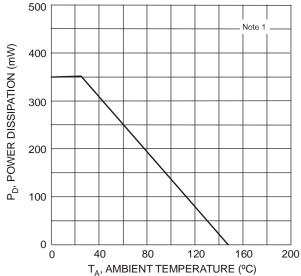
- Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.

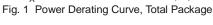
- Short duration pulse test used to minimize self-heating effect.

 No purposefully added lead. Halogen and Antimony Free.

 Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com./products/lead_free/index.php.







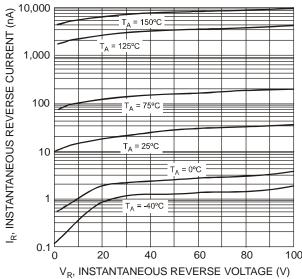


Fig. 3 Typical Reverse Characteristics, Per Element

O.001

T_A = 150°C

T_A = 75°C

T_A = 25°C

T_A = 0°C

T_A = -40°C

V_F, INSTANTANEOUS FORWARD VOLTAGE (V)

Fig. 2 Forward Characteristics, Per Element

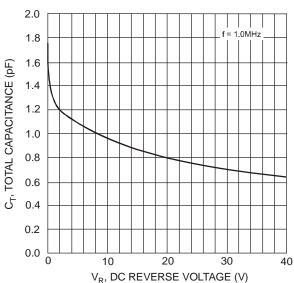


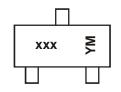
Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

Ordering Information (Note 5)

Part Number	Case	Packaging
MMBD7000HS-7-F	SOT-23	3000/Tape & Reel
MMBD7000HC-7-F	SOT-23	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

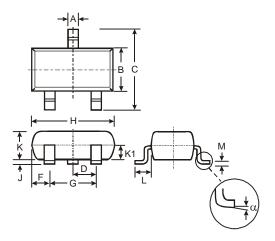


Date Code Key

Year	2009		2010	2011		2012	2013		2014	2015		2016
Code	W		Χ	Y		Z	Α		В	С		D
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D

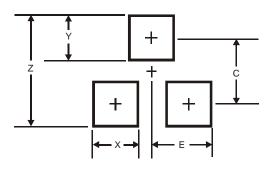


Package Outline Dimensions



SOT-23						
Dim	Min	Max	Тур			
Α	0.37	0.51	0.40			
В	1.20	1.40	1.30			
С	2.30	2.50	2.40			
D	0.89	1.03	0.915			
F	0.45	0.60	0.535			
G	1.78	2.05	1.83			
Н	2.80	3.00	2.90			
J	0.013	0.10	0.05			
K	0.903	1.10	1.00			
K1	-	-	0.400			
L	0.45	0.61	0.55			
М	0.085	0.18	0.11			
α	0°	8°	-			
All Dimensions in mm						

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
Х	0.8
Y	0.9
С	2.0
Е	1.35



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