



### **MMBD4448**

#### SURFACE MOUNT SWITCHING DIODE

#### **Features**

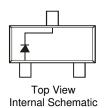
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications
- High Conductance
- Lead, Halogen and Antimony Free, RoHS Compliant
- "Green' Device (Notes 1 and 2)

### **Mechanical Data**

- Case: SOT-23
- Case Material: Molded Plastic. 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
- Weight: 0.008 grams (approximate)







### Ordering Information (Note 3)

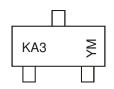
Part Number	Case	Packaging		
MMBD4448-7-F	SOT-23	3000/Tape & Reel		

Notes:

- 1. No purposefully added lead. Halogen and Antimony Free.
- 2. Product manufactured with Date Code V9(week 34, 2008) and newer are built with Green Molding Compound. Product manufactured prior to Date Code V9 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

  3. For packaging details, go to our website at http://www.diodes.com.

## **Marking Information**



KA3 = Product Type Marking Code YM = Date Code Marking Y = Year (ex: N = 2002)M = Month (ex: 9 = September)

#### Date Code Key

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	K	Ш	М	N	Р	R	S	T	U	V	W	X	Υ	Z	Α	В	С
Month	Jan		Feb	Mar	Α	pr	May	Jur	1	Jul	Aug	S	ер	Oct	No	v	Dec
Code	1		2	3	4	4	5	6		7	8	,	9	0	N		D



# Maximum Ratings @TA = 25°C unless otherwise specified

Characteristic		Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage		$V_{RM}$	100	V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	75	٧
RMS Reverse Voltage		$V_{R(RMS)}$	53	V
Forward Continuous Current (Note 4)		I <sub>FM</sub>	500	mA
Average Rectified Output Current (Note 4)		lo	250	mA
Non-Repetitive Peak Forward Surge Current	@ t = 1.0μs @ t = 1.0s	I <sub>FSM</sub>	4.0 1.0	А

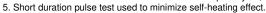
### **Thermal Characteristics**

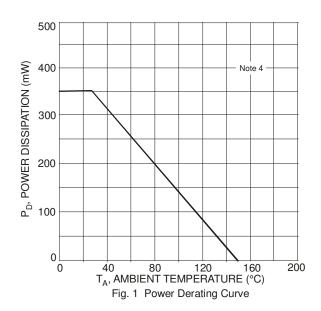
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	$P_{D}$	350	mW
Thermal Resistance Junction to Ambient Air (Note 4)	$R_{ hetaJA}$	357	°C/W
Operating and Storage Temperature Range	$T_J,T_STG$	-65 to +150	°C

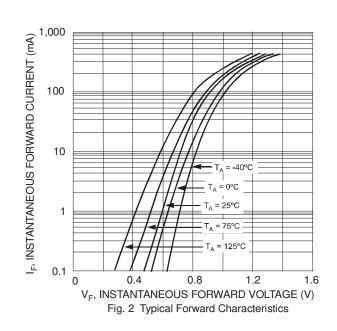
# **Electrical Characteristics** @TA = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition		
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	75	1	٧	$I_R = 2.5 \mu A$		
	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.62	0.72		I <sub>F</sub> = 5.0mA		
Forward Voltage		I <sub>F</sub> = 10mA					
i olwaru voltage		$I_F = 100 \text{mA}$					
		_	1.25		$I_F = 150 \text{mA}$		
	I <sub>R</sub>		2.5	μА	$V_R = 75V$		
Reverse Current (Note 5)			50	μA	$V_R = 75V, T_J = 150^{\circ}C$		
neverse ourient (Note 3)		IR .	ir —	_		μΑ	V <sub>R</sub> = 25V, T <sub>J</sub> = 150°C
			25	nA	$V_R = 20V$		
Total Capacitance	C <sub>T</sub>		4.0	pF	$V_R = 0, f = 1.0MHz$		
Reverse Recovery Time	+		4.0	ns	$I_F = I_R = 10 \text{mA},$		
neverse necovery fillie	t <sub>rr</sub>	_			$I_{rr} = 0.1 \times I_{R}, R_{L} = 100\Omega$		

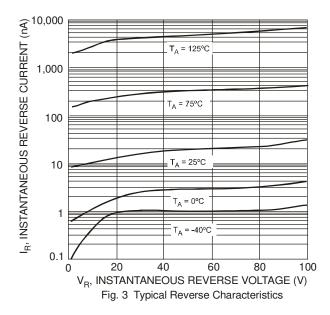
Notes: 4. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com.

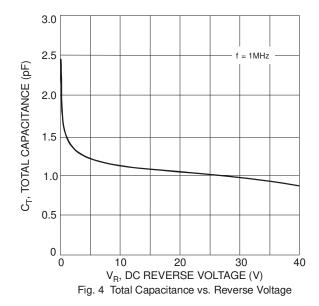




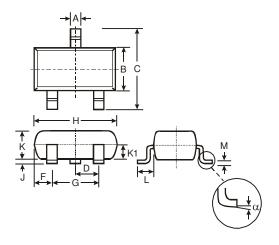






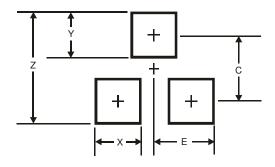


## **Package Outline Dimensions**



SOT-23								
Dim	Min	Max	Тур					
Α	0.37	0.51	0.40					
В	1.20	1.40	1.30					
C	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					
Η	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	All Dimensions in mm							

# **Suggested Pad Layout**



Dimensions	Value (in mm)			
Z	2.9			
X	0.8			
Υ	0.9			
С	2.0			
E	1.35			



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