

## Features

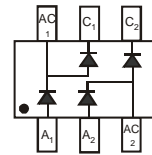
- Two Series Diode Circuits Connect to Form Full Wave Bridge
- Fast Switching Speed
- High Conductance
- High Reverse Breakdown Voltage Rating
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

- Case: SOT-26
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Matte Tin Finish Annealed over Copper Leadframe (Lead-Free Plating). Solderable per MIL-STD-202, Method 208<sup>(E3)</sup>
- Polarity: See Diagram
- Weight: 0.016 grams (Approximate)



SOT-26  
TOP VIEW



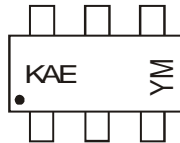
TOP VIEW  
Internal Schematic

## Ordering Information (Note 4)

Part Number	Case	Packaging
MMBD3004BRM-7	SOT-26	3000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

## Marking Information



KAE = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year ex: B = 2014  
 M = Month ex: 9 = September

### Date Code Key

<b>Year</b>	2006	2007	...	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>Code</b>	T	U	...	Y	Z	A	B	C	D	E	F	G
<b>Month</b>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Code</b>	1	2	3	4	5	6	7	8	9	O	N	D

**Maximum Ratings** (@T<sub>A</sub> = +25°C unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	350	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	300	V
DC Blocking Voltage	V <sub>R</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	212	V
Forward Continuous Current (Note 5)	I <sub>F</sub>	225	mA
Peak Repetitive Forward Current (Note 5)	I <sub>FRM</sub>	625	mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	@ t = 1.0μs	4.0
		@ t = 1.0s	1.0

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P <sub>D</sub>	350	mW
Thermal Resistance Junction to Ambient Air (Note 5)	R <sub>θJA</sub>	357	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

**Electrical Characteristics** (@T<sub>A</sub> = +25°C unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V <sub>(BR)R</sub>	350	—	—	V	I <sub>R</sub> = 150μA
Forward Voltage	V <sub>F</sub>	—	0.78	0.87	V	I <sub>F</sub> = 20mA
			0.93	1.0		I <sub>F</sub> = 100mA
			1.03	1.25		I <sub>F</sub> = 200mA
Reverse Current (Note 6)	I <sub>R</sub>	—	30	100	nA	V <sub>R</sub> = 240V
			35	100		μA
Total Capacitance	C <sub>T</sub>	—	1.0	5.0	pF	V <sub>R</sub> = 0V, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	—	50	ns	I <sub>F</sub> = I <sub>R</sub> = 30mA, I <sub>rr</sub> = 3.0mA, R <sub>L</sub> = 100Ω

- 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.

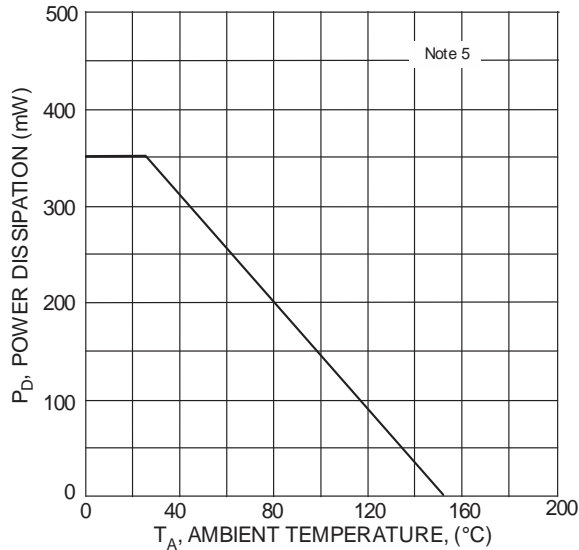


Fig. 1 Power Derating Curve, Total Package

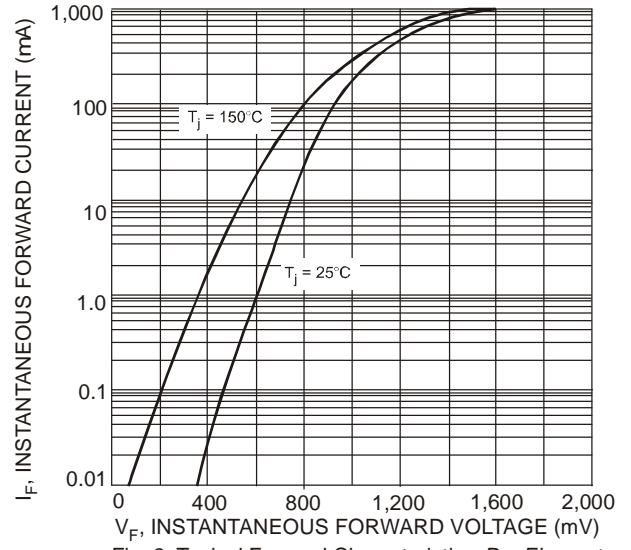


Fig. 2 Typical Forward Characteristics, Per Element

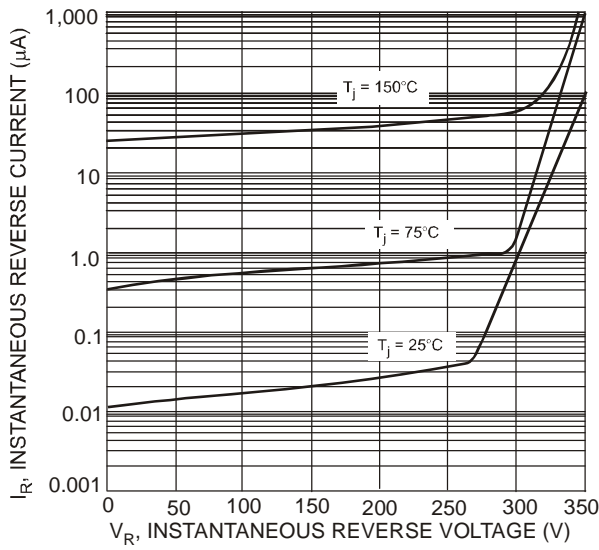


Fig. 3 Typical Reverse Characteristics, Per Element

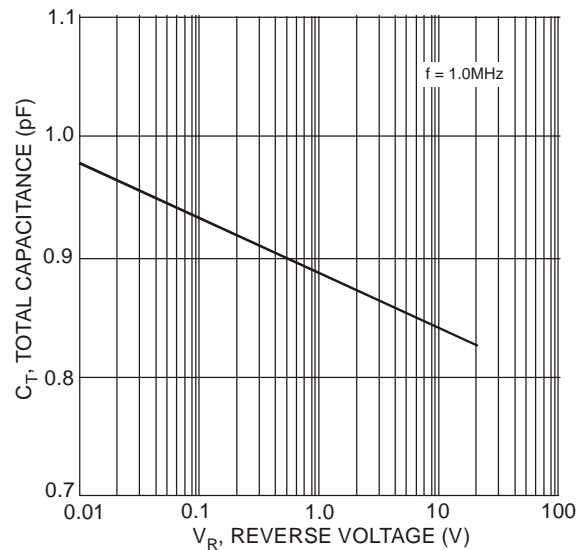
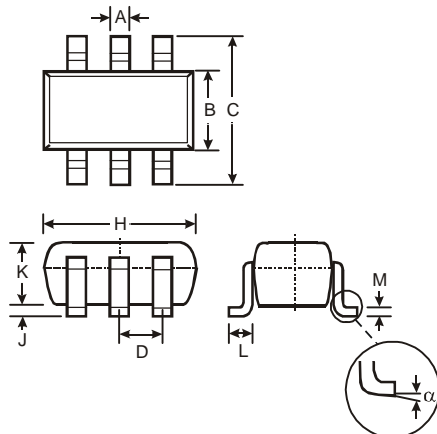


Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

### Package Outline Dimensions

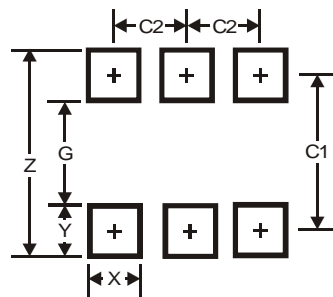
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



SOT26			
Dim	Min	Max	Typ
A	0.35	0.50	0.38
B	1.50	1.70	1.60
C	2.70	3.00	2.80
D	—	—	0.95
H	2.90	3.10	3.00
J	0.013	0.10	0.05
K	1.00	1.30	1.10
L	0.35	0.55	0.40
M	0.10	0.20	0.15
$\alpha$	0°	8°	—
All Dimensions in mm			

## Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
Z	3.20
G	1.60
X	0.55
Y	0.80
C1	2.40
C2	0.95

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