

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications
- High Conductance
- Miniature Package
- **Lead Free/RoHS Compliant (Note 1)**
- Qualified to AEC-Q101 Standards for High Reliability
- "Green" Device (Notes 2 and 3)

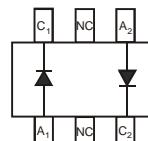
Mechanical Data

- Case: SOT-363
- 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
- Weight: 0.006 grams (approximate)

SOT-363



Top View



Top View
Internal Schematic

Ordering Information (Note 4)

Part Number	Case	Packaging
MMBD4448DW-7-F	SOT-363	3000/Tape & Reel

Notes:

1. No purposefully added lead.
2. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com>.
3. Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.
4. 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	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	L	M	N	P	R	S	T	U	V	W	X	Y	Z	A	B	C
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec				
Code	1	2	3	4	5	6	7	8	9	O	N	D				

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Reverse Voltage	V_{RRM}		
Working Peak Reverse Voltage	V_{RWM}	75	V
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(\text{RMS})}$	53	V
Forward Continuous Current (Note 5)	I_{FM}	500	mA
Average Rectified Output Current (Note 5)	I_O	250	mA
Non-Repetitive Peak Forward Surge Current @ $t < 1\mu\text{s}$	I_{FSM}	4	A
Non-Repetitive Peak Forward Surge Current @ $t < 1\text{s}$		1	

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_D	200	mW
Thermal Resistance Junction to Ambient Air (Note 5)	R_{0JA}	625	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	°C

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	75	—	V	$I_R = 10\mu\text{A}$
Forward Voltage	V_F	0.62	0.720	V	$I_F = 5.0\text{mA}$
		—	0.855		$I_F = 10\text{mA}$
		—	1.0		$I_F = 50\text{mA}$
		—	1.25		$I_F = 150\text{mA}$
		—	—		$V_R = 75\text{V}$
Reverse Current (Note 6)	I_R	2.5	2.5	μA	$V_R = 75\text{V}, T_J = 150^\circ\text{C}$
		50	50	μA	$V_R = 25\text{V}, T_J = 150^\circ\text{C}$
		30	30	μA	$V_R = 25\text{V}, T_J = 150^\circ\text{C}$
		25	25	nA	$V_R = 20\text{V}$
Total Capacitance	C_T	—	4.0	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	4.0	ns	$I_F = I_R = 10\text{mA}, t_{rr} = 0.1 \times I_R, R_L = 100\Omega$

Notes: 5. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com>.
 6. Short duration pulse test used to minimize self-heating.

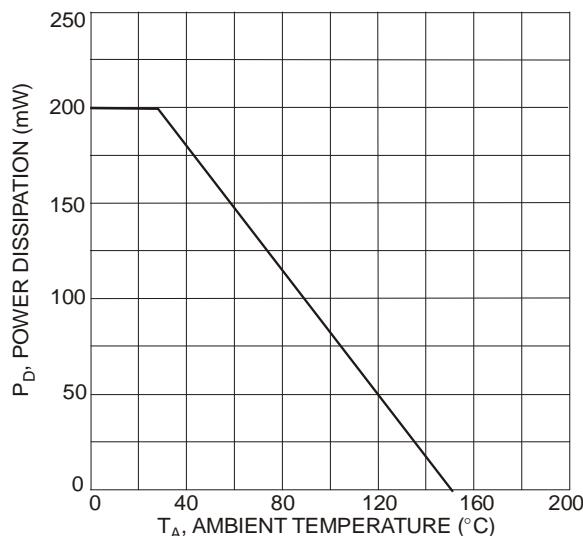


Fig. 1 Power Derating Curve, Total Package (Note 5)

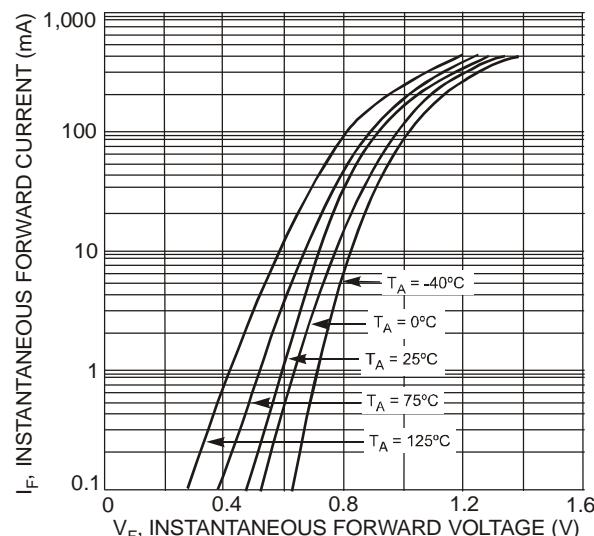


Fig. 2 Typical Forward Characteristics, Per Element

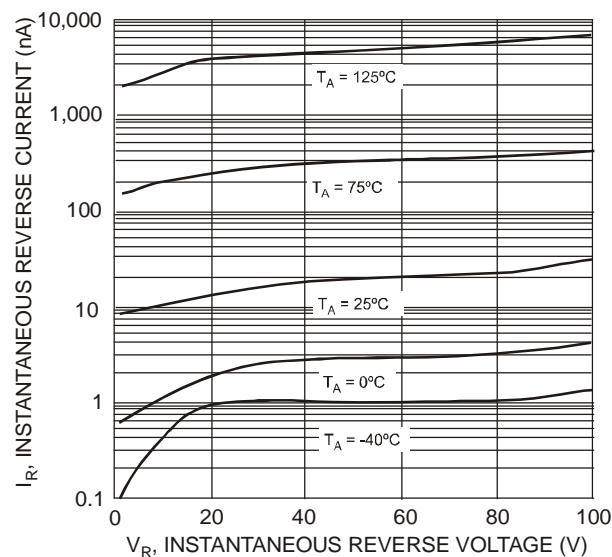


Fig. 3 Typical Reverse Characteristics, Per Element

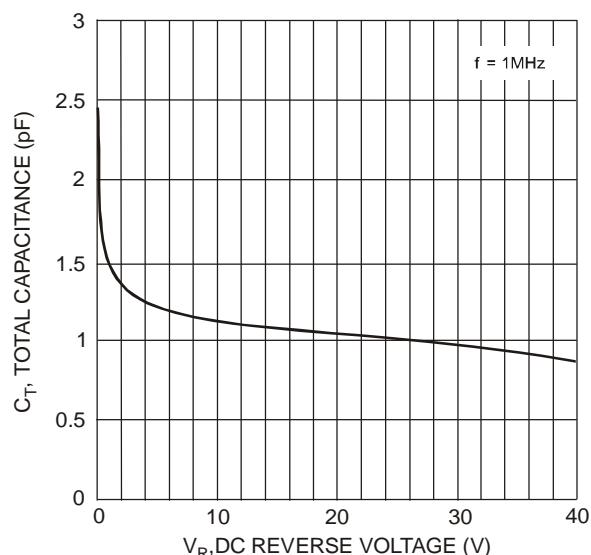
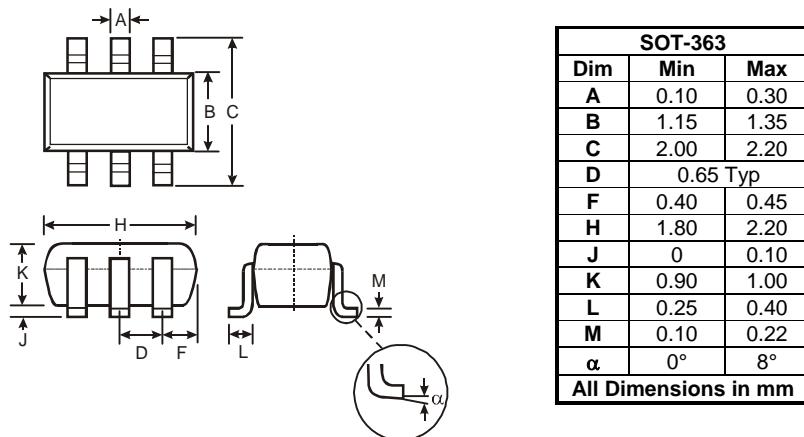
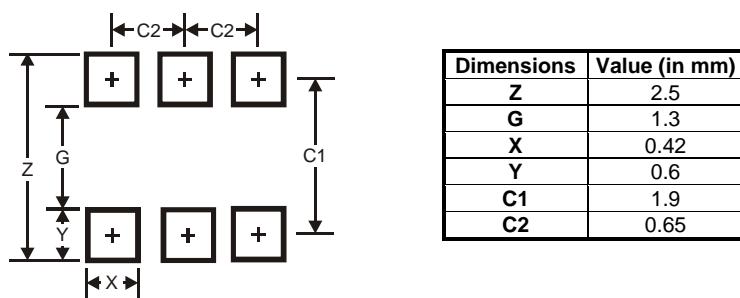


Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

Package Outline Dimensions



Suggested Pad Layout



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