Lead-free Green

SURFACE MOUNT FAST SWITCHING DIODE ARRAY

Please click here to visit our online spice models database.

Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- For General Purpose Switching Applications
- High Conductance
- **Lead Free/RoHS Compliant (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**
- **"Green" Device (Note 3 and 4)**

Mechanical Data

- Case: SOT-353 or SOT-363
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe). Please see Ordering Information: Note 6, Page 3
- Orientation: See Diagrams Below
- Marking Information: See Diagrams Below & Page 3
- Weight: 0.006 grams (approximate)

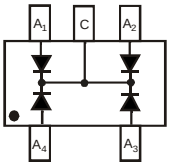
SOT-353/SOT-363



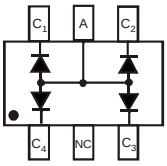
SOT-353
TOP VIEW



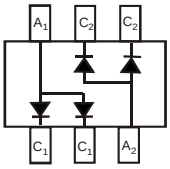
SOT-363
TOP VIEW



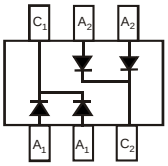
Marking: KA4
MMBD4448HCQW



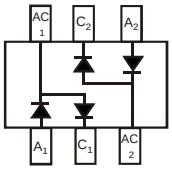
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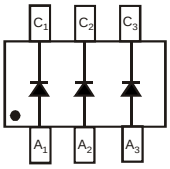
Marking: KA6
MMBD4448HADW



Marking: KA7
MMBD4448HCDW



Marking: KAB
MMBD4448HSDW



Marking: KAA
MMBD4448HTW

Maximum Ratings @T_A = 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_{RRM} V_{RWM} V_R	80	V
RMS Reverse Voltage	$V_{R(RMS)}$	57	V
Forward Continuous Current (Note 1)	I_{FM}	500	mA
Average Rectified Output Current (Note 1)	I_O	250	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0μs @ t = 1.0s	I_{FSM}	4.0 2.0	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P_d	200	mW
Thermal Resistant Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625	°C/W
Operating and Storage Temperature Range	T_j , T_{STG}	-65 to +150	°C

Notes:
1. 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/datasheets/ap02001.pdf.
2. No purposefully added lead.
3. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
4. 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 Sb_2O_3 Fire Retardants.

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Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	80	—	V	I_R = 100μA
Forward Voltage	V_F	0.62 — — —	0.72 0.855 1.0 1.25	V	I_F = 5.0mA I_F = 10mA I_F = 100mA I_F = 150mA
Reverse Current (Note 5)	I_R	—	100 50 30 25	nA μA μA nA	V_R = 70V V_R = 75V, T_j = 150°C V_R = 25V, T_j = 150°C V_R = 20V
Total Capacitance	C_T	—	3.5	pF	V_R = 6V, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	4.0	ns	V_R = 6V, I_F = 5mA

Notes: 5. Short duration pulse test used to minimize self-heating effect.

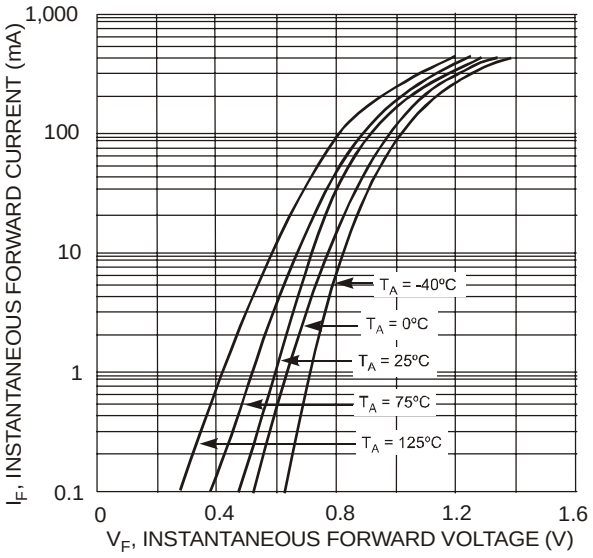


Fig. 1 Typical Forward Characteristics

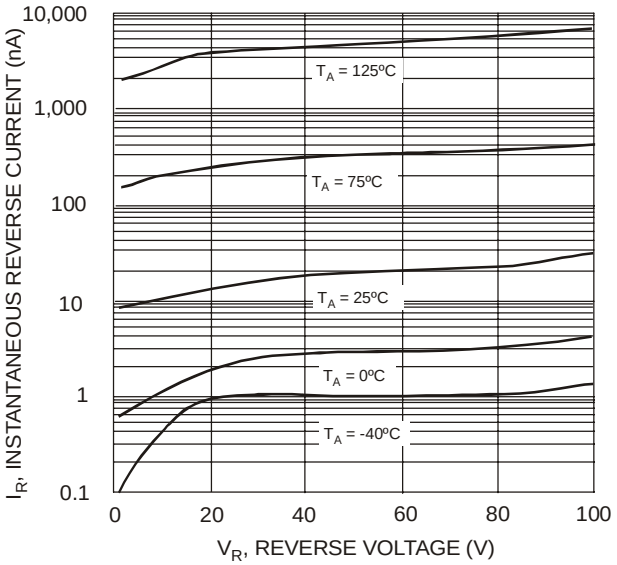


Fig. 2 Typical Reverse Characteristics

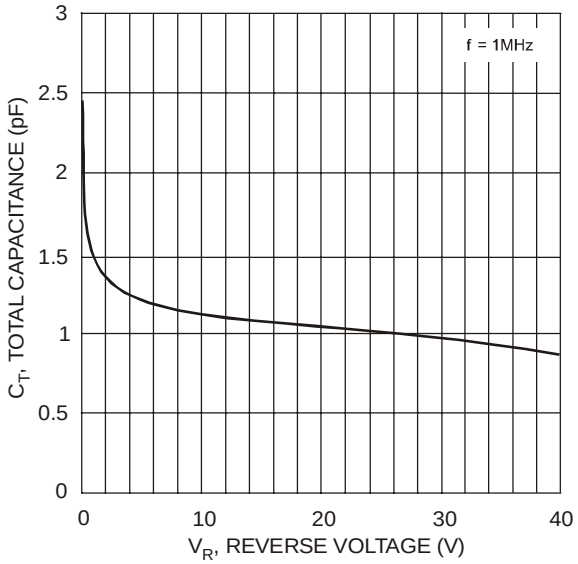


Fig. 3 Typical Capacitance vs. Reverse Voltage

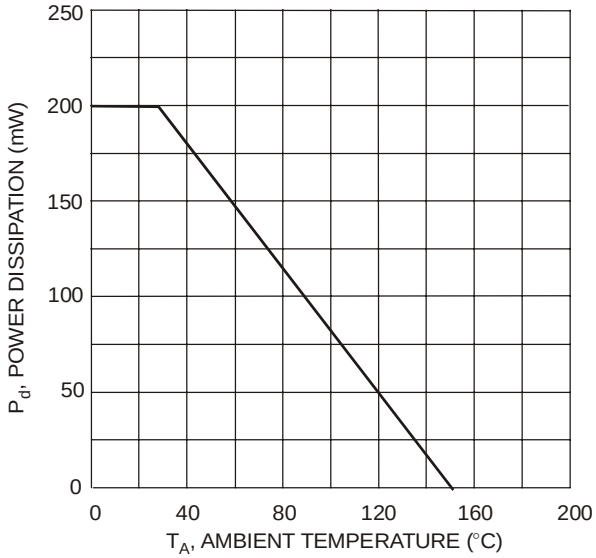


Fig. 4 Power Derating Curve, Total Package

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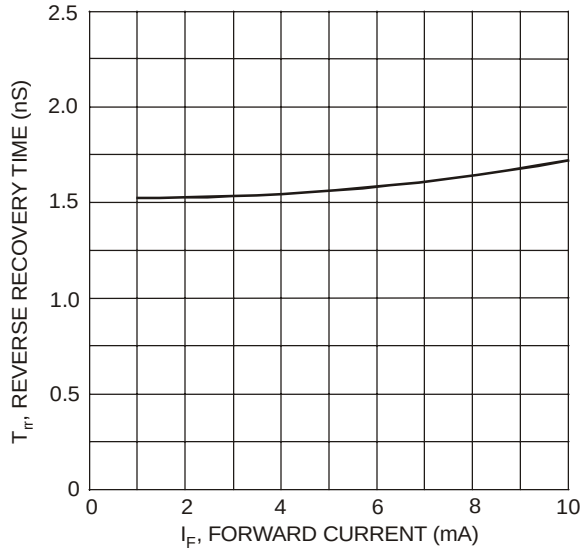


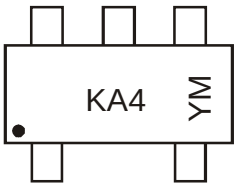
Fig. 5 Reverse Recovery Time vs. Forward Current

Ordering Information (Note 6)

Part Number	Case	Packaging
MMBD4448HADW-7-F	SOT-363	3000/Tape & Reel
MMBD4448HAQW-7-F	SOT-363	3000/Tape & Reel
MMBD4448HCDW-7-F	SOT-363	3000/Tape & Reel
MMBD4448HCQW-7-F	SOT-353	3000/Tape & Reel
MMBD4448HSDW-7-F	SOT-363	3000/Tape & Reel
MMBD4448HTW-7-F	SOT-363	3000/Tape & Reel

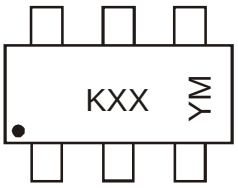
Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



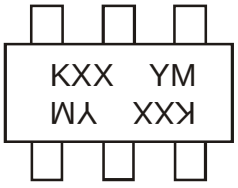
SOT-353

KA4 = Product Type Marking Code,
KA4 = MMBD4448HCQW
YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September



SOT-363

KXX = Product Type Marking Code,
ex. KA5 = MMBD4448HAQW
KAA = MMBD4448HTW
YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September



SOT-363

KXX = Product Type Marking Code, ex. KA6 = MMBD4448HADW
KA7 = MMBD4448HCDW
KAB = MMBD4448HSDW

YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September

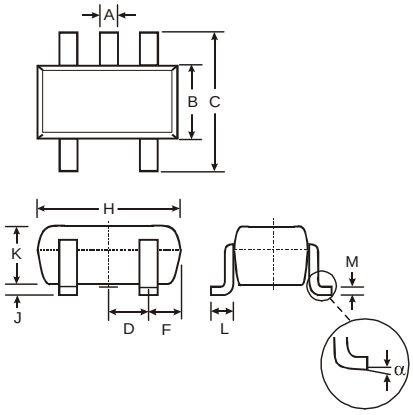
Date Code Key

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2111	2012
Code	L	M	N	P	R	S	T	U	V	W	X	Y	Z

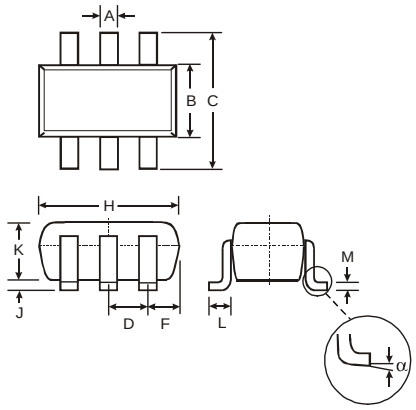
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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Package Outline Dimensions

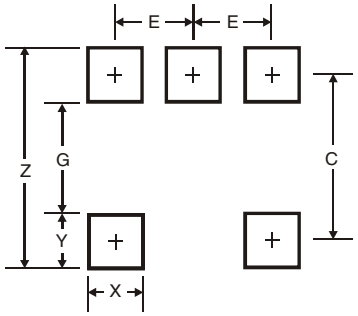


SOT-353		
Dim	**Min**	**Max**
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.30	0.40
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
α	0°	8°
All Dimensions in mm		

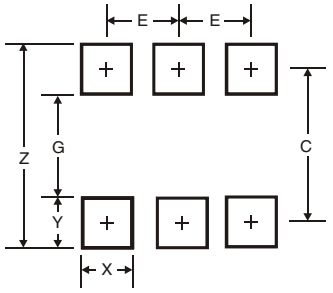


SOT-363		
Dim	**Min**	**Max**
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.30	0.40
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
α	0°	8°
All Dimensions in mm		

Suggested Pad Layout



SOT-353	
Dimensions	**Value (in mm)**
Z	2.5
G	1.3
X	0.42
Y	0.6
C	1.9
E	0.65



SOT-363	
Dimensions	**Value (in mm)**
Z	2.5
G	1.3
X	0.42
Y	0.6
C	1.9
E	0.65

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