

SURFACE MOUNT FAST SWITCHING DIODE ARRAY

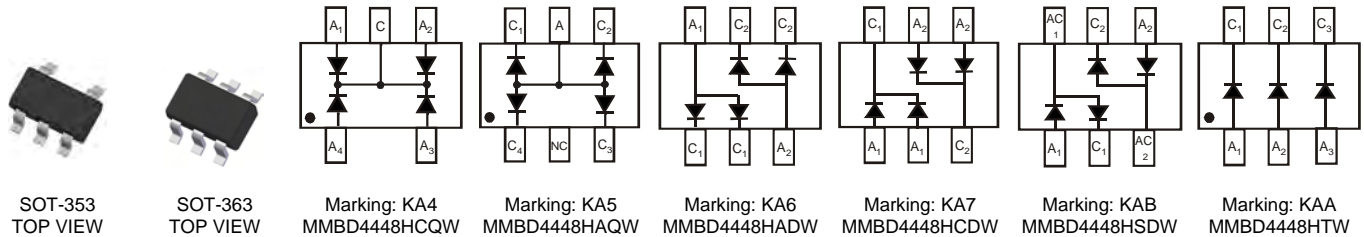
Features

- 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



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	V _{RRM}	80	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
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	I _{FSM}	@ t = 1.0μs	4.0
		@ t = 1.0s	2.0

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P _d	200	mW
Thermal Resistant Junction to Ambient Air (Note 1)	R _{θJA}	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 Sb₂O₃ Fire Retardants.

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 _i = 150°C V _R = 25V, T _i = 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.

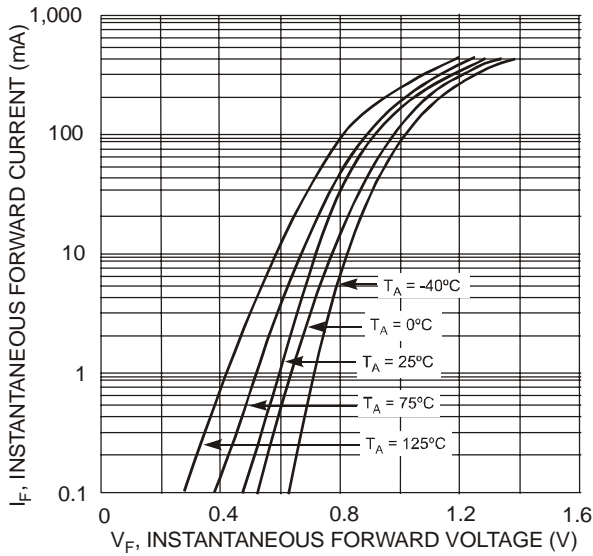


Fig. 1 Typical Forward Characteristics

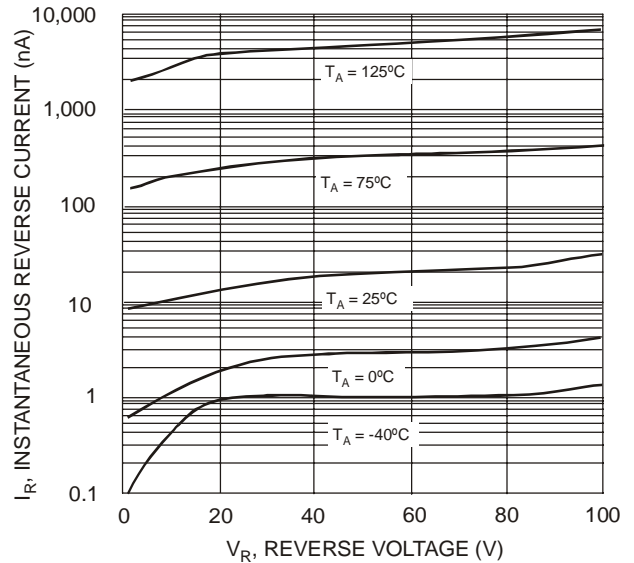


Fig. 2 Typical Reverse Characteristics

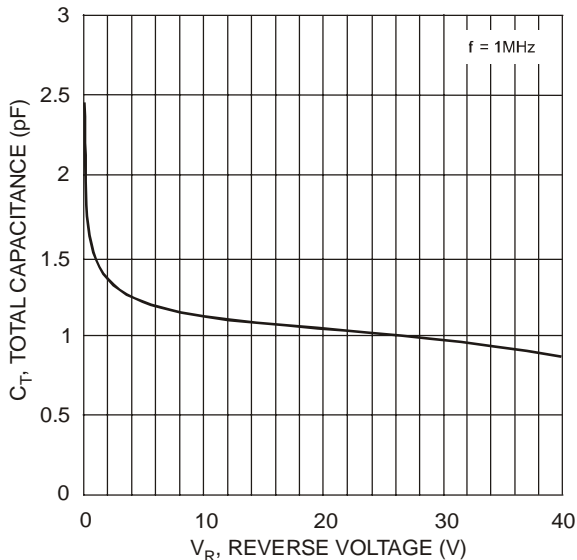


Fig. 3 Typical Capacitance vs. Reverse Voltage

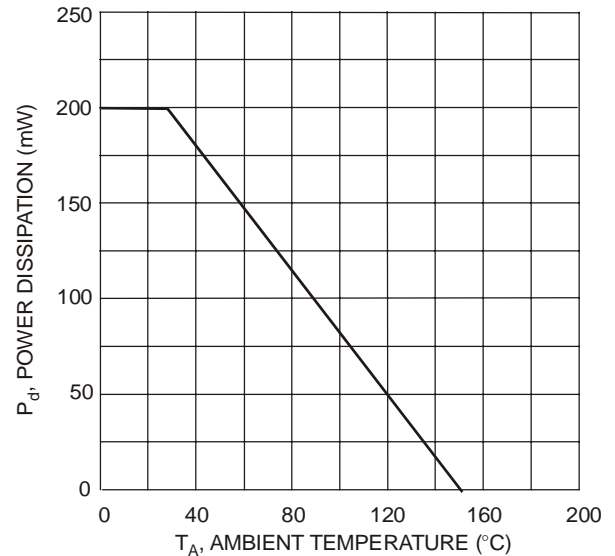


Fig. 4 Power Derating Curve, Total Package

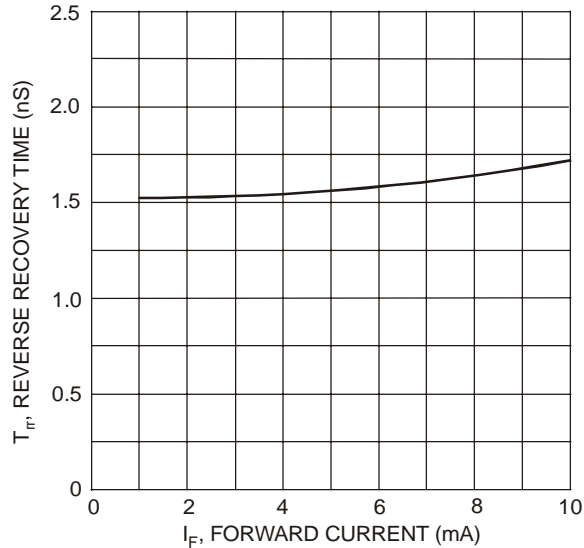


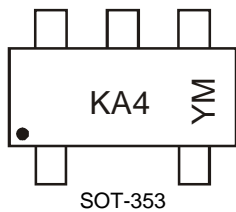
Fig. 5 Reverse Recovery Time vs. Forward Current

Ordering Information (Note 6)

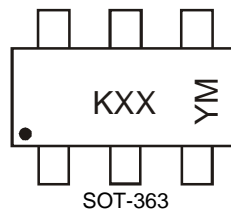
Part Number	Case	Packaging
MMBD4448HADW-7-F	SOT-363	3000/Tape & Reel
MMBD4448HAQW-7-F	SOT-363	3000/Tape & Reel
MMBD4448HCDW-7-F	SOT-363	3000/Tape & Reel
MMBD4448HCQW-7-F	SOT-353	3000/Tape & Reel
MMBD4448HSDW-7-F	SOT-363	3000/Tape & Reel
MMBD4448HTW-7-F	SOT-363	3000/Tape & Reel

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

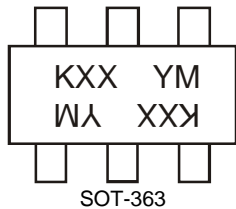
Marking Information



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



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



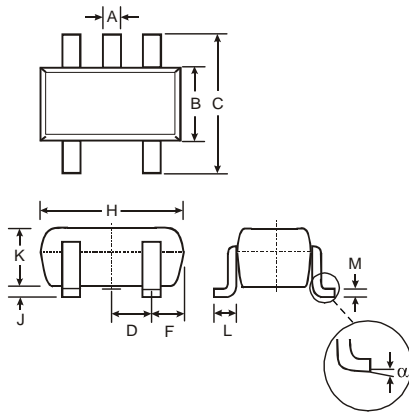
KXX = Product Type Marking Code, ex. KA6 = MMBD4448HADW
KA7 = MMBD4448HCDW
KAB = MMBD4448HSDW
YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September

Date Code Key

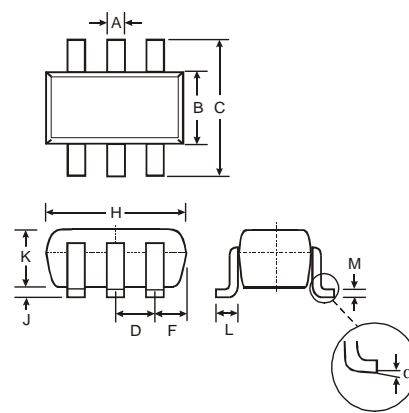
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2111	2012
Code	L	M	N	P	R	S	T	U	V	W	X	Y	Z

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

Package Outline Dimensions

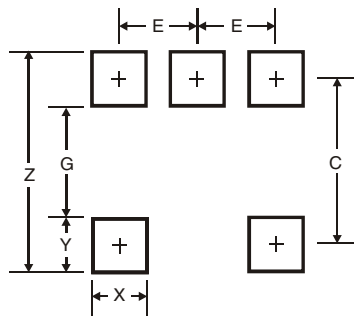


SOT-353		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.30	0.40
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
α	0°	8°
All Dimensions in mm		

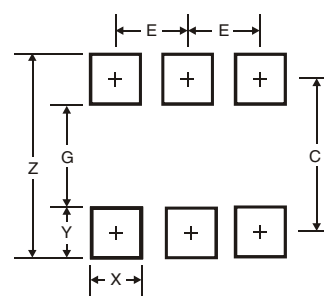


SOT-363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.30	0.40
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
α	0°	8°
All Dimensions in mm		

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

IMPORTANT NOTICE

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