



SURFACE-MOUNT FAST SWITCHING DIODE ARRAY

Features

- Fast Switching Speed
- Low Forward Voltage: Maximum of 0.72V at 5mA
- Low Reverse Current: Maximum of 100nA at 70V
- Fast Reverse Recovery: Maximum of 4ns
- Low Capacitance: Maximum of 3.5pF
- Small Surface-Mount Package
- For General-Purpose Switching Applications
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- The MMBD4448HADWQ is suitable for automotive applications requiring specific change control; this part is AEC-Q101 qualified, PPAP capable, and manufactured in IATF16949 certified facilities.

https://www.diodes.com/quality/product-definitions/

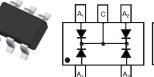
Mechanical Data

- Package: SOT353 or SOT363
- Package 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 (3)
- Orientation: See Diagrams Below
- Weight: 0.006 grams (Approximate)

SOT353/SOT363

















SOT353 Top View

SOT363 Top View

MMBD4448HCQW MMBD4448HAQW

MMBD4448HADW

MMBD4448HCDW

MMBD4448HSDW

MMBD4448HTW

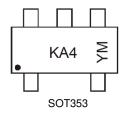
Ordering Information (Note 4)

Part Number	Package	Packing		
Part Number	Package	Qty.	Carrier	
MMBD4448HADW-7-F	SOT363	3000	Tape & Reel	
MMBD4448HADWQ-7-F	SOT363	3000	Tape & Reel	
MMBD4448HAQW-7-F	SOT363	3000	Tape & Reel	
MMBD4448HCDW-7-F	SOT363	3000	Tape & Reel	
MMBD4448HCQW-7-F	SOT353	3000	Tape & Reel	
MMBD4448HSDW-7-F	SOT363	3000	Tape & Reel	
MMBD4448HTW-7-F	SOT363	3000	Tape & Reel	

Notes:

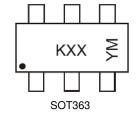
- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
- 2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- 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 https://www.diodes.com/design/support/packaging/diodes-packaging/

Marking Information



KA4 = Product Type Marking Code KA4 = MMBD4448HCQW YM = Date Code Marking Y = Year (ex: K = 2023); A Bar on Top of the "Y" Denotes AT Sites

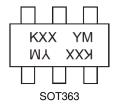
M = Month (ex: 9 = September)



KXX = Product Type Marking Code, ex: KA5 = MMBD4448HAQW KAA = MMBD4448HTW YM = Date Code Marking Y = Year (ex: K = 2023); A Bar on Top of the "Y" Denotes AT Sites M = Month (ex: 9 = September)



Marking Information (continued)



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

YM = Date Code Marking

Y = Year (ex: K = 2023); A Bar on Top of the "Y" Denotes AT Sites

M = Month (ex: 9 = September)

Date Code Key

Year	2000	-	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Code	L	-	K	L	М	N	Р	R	S	Т	U	V
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Maximum Ratings (@ $T_A = +25^{\circ}C$, 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	VRRM VRWM VR	80	V
RMS Reverse Voltage	V _{R(RMS)}	57	V
Forward Continuous Current (Note 5)	Iғм	500	mA
	= 1.0μs = 1.0s	4.0 1.0	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	PD	200	mW
Thermal Resistance Junction to Ambient Air (Note 5)	R _{0JA}	625	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

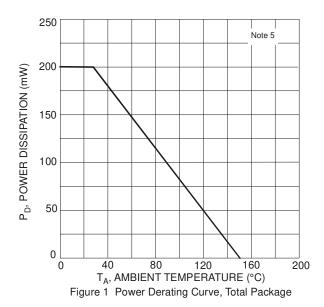
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

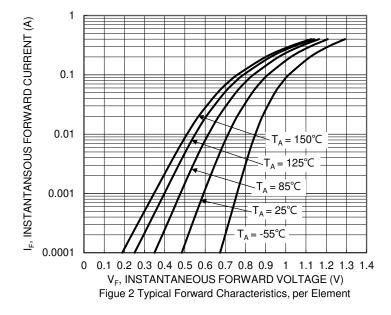
Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	80	_	V	I _R = 100μA
		0.62	0.72		IF = 5.0mA
Forward Voltage	VF	_	0.855	V	$I_F = 10mA$
Forward voltage	٧F	_	1.0	v	IF = 100mA
		_	1.25		IF = 150mA
		_	100	nA	V _R = 70V
Payoroa Current (Nota 6)	I	_	50	μΑ	$V_R = 75V, T_J = +150$ °C
Reverse Current (Note 6)	IR	_	30	μA	$V_R = 25V, T_J = +150$ °C
		_	25	nΑ	V _R = 20V
Total Capacitance	Ст	_	3.5	pF	V _R = 6V, f = 1.0MHz
Reverse Recovery Time	trr	_	4.0	ns	V _B = 6V, I _F = 5mA

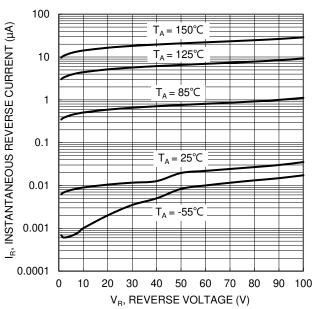
Notes: 5. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Incorporated's suggested pad layout, which can be found on our website at http://www.diodes.com/package-outlines.html.

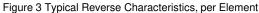
6. Short duration pulse test used to minimize self-heating effect.











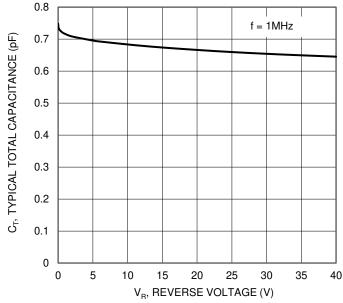
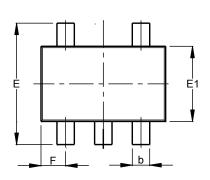


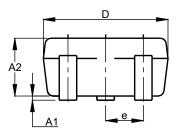
Figure 4 Typical Total Capacitance, per Element

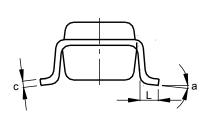


Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.



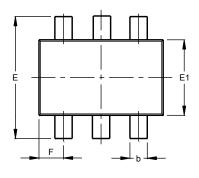


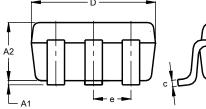


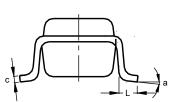
SOT353	

	SOT353				
Dim	Min	Max	Тур		
A1	0.00	0.10	0.05		
A2	0.90	1.00	0.95		
b	0.10	0.30	0.25		
С	0.10	0.22	0.11		
D	1.80	2.20	2.15		
Е	2.00	2.20	2.10		
E1	1.15	1.35	1.30		
е	C).650 B	SC		
F	0.40	0.45	0.425		
L	0.25	0.40	0.30		
а	0°	8°			
All	Dimen	sions	in mm		









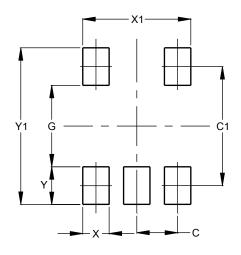
SOT363				
Dim	Min	Max	Тур	
A 1	0.00	0.10	0.05	
A2	0.90	1.00	0.95	
b	0.10	0.30	0.25	
С	0.10	0.22	0.11	
D	1.80	2.20	2.15	
Е	2.00	2.20	2.10	
E1	1.15	1.35	1.30	
е	C).650 E	SC	
F	0.40	0.45	0.425	
L	0.25	0.40	0.30	
а	0°	8°		
All I	Dimen	sions	in mm	



Suggested Pad Layout

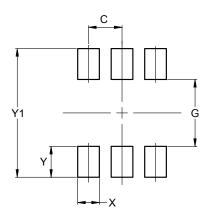
Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT353



Dimensions	Value (in mm)
С	0.650
C1	1.900
G	1.300
Х	0.420
X1	1.720
Υ	0.600
Y1	2.500

SOT363



Dimensions	Value (in mm)
С	0.650
G	1.300
Х	0.420
Υ	0.600
V1	2 500



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