




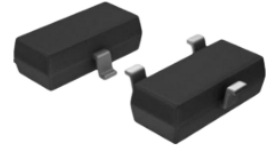
<b>SPECIFICATION SHEET NO.</b>	S0510 – MMBD4148A0S05H	
<b>ORIGINAL MFG/PART NO.</b>	MDD Diodes/MMBD4148A	
<b>NEXTGEN PART CODE</b>	MMBD4148A0S05H	Indicate This Code For <a href="#">RFQ</a> /Order
<b>DATE</b>	May. 10, 2025	
<b>REVISION</b>	A3	Updated With Most Recent Data
<b>DESCRIPTION AND MAIN PARAMETRICS</b>	<p>SMD Fast Switching Diodes, Case SOT-23 MMBD Series, 3 Pads</p> <p>Working Peak Reverse Voltage (VRWM): 100V Max.</p> <p>Forward Continuous Current (IFM): 0.3A Max.</p> <p>Junction Temperature Range (Tj): +150°C</p> <p>Package in Tape/Reel, 3000pcs/Reel</p> <p>RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863) and Halogen Free (HF)</p>	
<b>CUSTOMER</b>		
<b>CUSTOMER PART NUMBER</b>		
<b>CROSS REF. PART NUMBER</b>		
<b>MEMO</b>		

<b>VENDOR APPROVE</b>			
Issued/Checked/Approved			
Effective Date: May. 10, 2025			

<b>CUSTOMER APPROVE</b>
Date:

## MAIN FEATURE

- Fast Switching Speed
- Case Type SOT-23
- Surface Mount Package Ideally Suited For Automatic Insertion
- High Conductance
- Meet MSL 1 Requirement
- Cross Competitors Parts and More.
- RoHS/RoHS III compliant, RoHS Annex III lead Exemption (Exempt per RoHS EU 2015/863) and Halogen Free (HF)



*Image shown is a representation only. Exact specifications should be obtained from the product dimension.*

## APPLICATION

- For General Purpose Switching Applications

## ELECTRICAL CHARACTERISTICS

- See Page 5 ~ Page 6.
- All Products Parameters are Subject To NextGen Components' Final Confirmation.



## HOW TO ORDER

- Please Follow Up Part Code Guide And Indicate NextGen Part Code MMBD4148A0S05H For RFQ and Order.

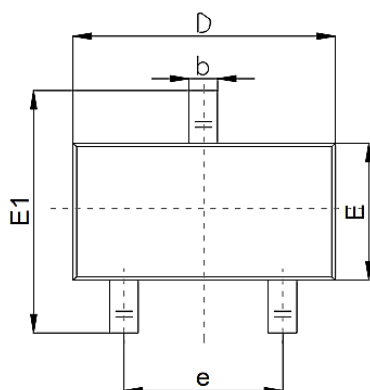
## PART CODE GUIDE

**RFQ**[Request For Quotation](#)

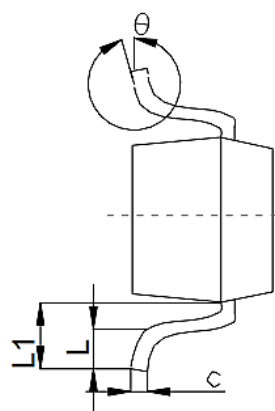
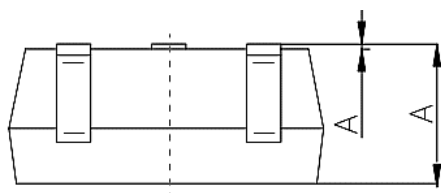
CODE	NAME	KEY SPECIFICATION OPTION
MMBD	Product Series Code	SMD Fast Switching Diodes, 3 Pads
4148A	Parameters Code	Letter or Digits (A~Z, a~z or 0~9)
0S0	Internal Control Code	Letter or Digits (A~Z, a~z or 0~9)
5H	Marking Code	Marking "5H"
XX	Special/Custom Parameters Code	Letter or Digits (A~Z, a~z or 0~9) for Special Parametric; Blank: N/A

**DIMENSION** - Unit: mm, Case SOT-23, Inch/mm

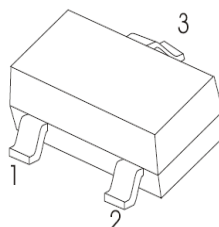
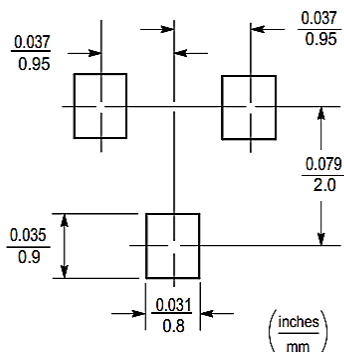
Top View



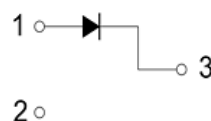
Side View



SYMBOL	DIMENSION (MM)		
	MIN.	TYP.	MAX.
A	0.65		1.40
A1	0.00		0.20
b	0.30		0.55
c	0.08		0.20
D	2.70		3.10
E	1.15		1.65
E1	2.10		2.80
e	1.70		2.10
L	0.15		0.50
L1	0.35		0.70
$\theta$	0°		12°

Recommend Pad Layout - Tolerance:  $\pm 0.05\text{mm}$ 


1. Gate (G) 2. Source (S) 3. Drain (D)



Equivalent Circuit

## MECHANICAL CHARACTERISTICS

CASE	FLAMMABILITY RATING	TERMINALS	MARKING
JEDEC SOT-23 molded plastic body	UL 94V-0	Solder plated, solderable per MIL-STD-750, Method 2026	5H

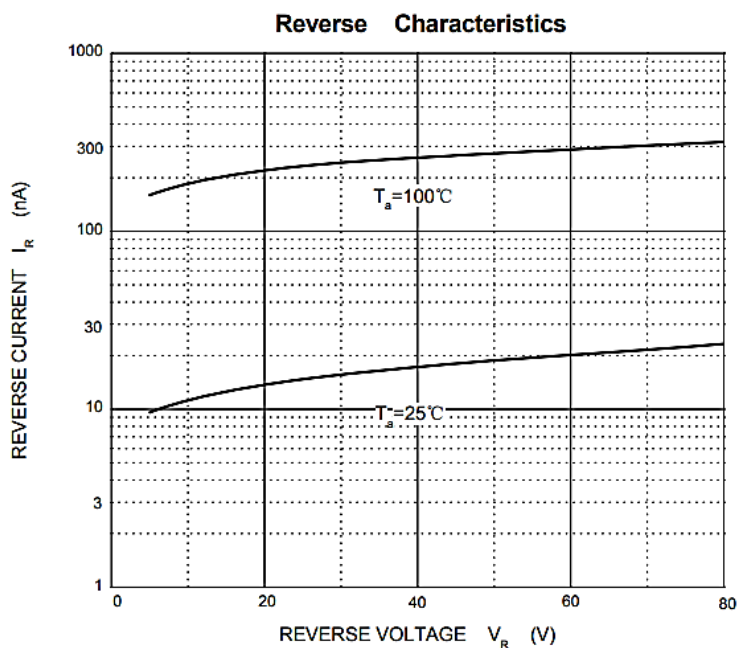
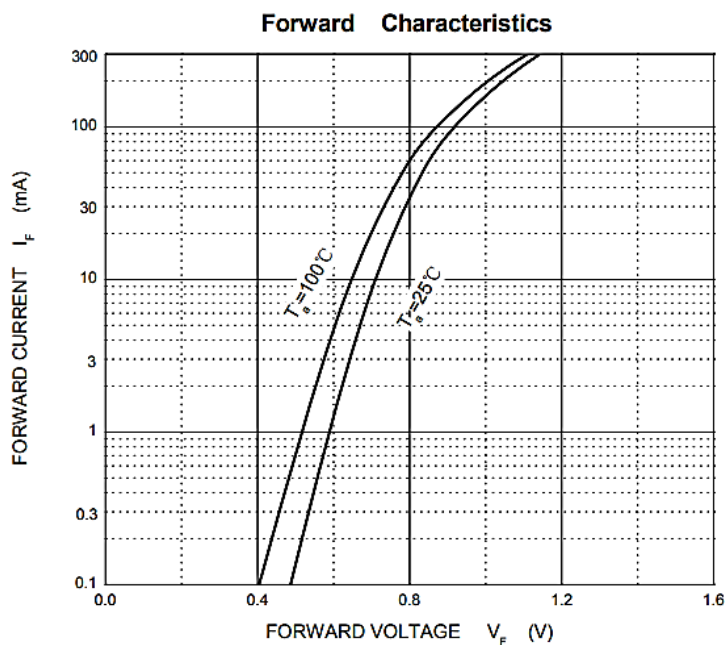
## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS, SINGLE DIODE- $T_A=25^{\circ}\text{C}$

PARAMETER	SYMBOLS	VALUE	UNITS
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	100	V
Peak Repetitive Peak Reverse Voltage	$V_{RRM}$	100	V
Working Peak Reverse Voltage	$V_{RWM}$	100	V
DC Blocking Voltage	$V_R$	100	V
RMS Reverse Voltage	$V_R(RMS)$	72	V
Forward Continuous Current	$I_{FM}$	300	mA
Average Rectified Output Current	$I_O$	200	mA
Non-Repetitive Peak Forward Surge Current @8.3ms	$I_{FSM}$	2.0	A
Power Dissipation	$P_D$	350	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$
Junction Temperature Range	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-55 ~+ 150	$^{\circ}\text{C}$

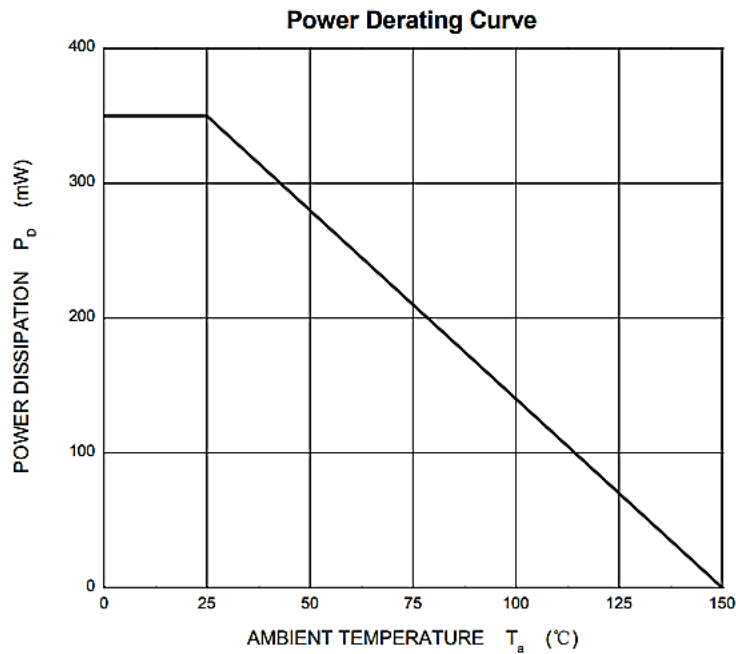
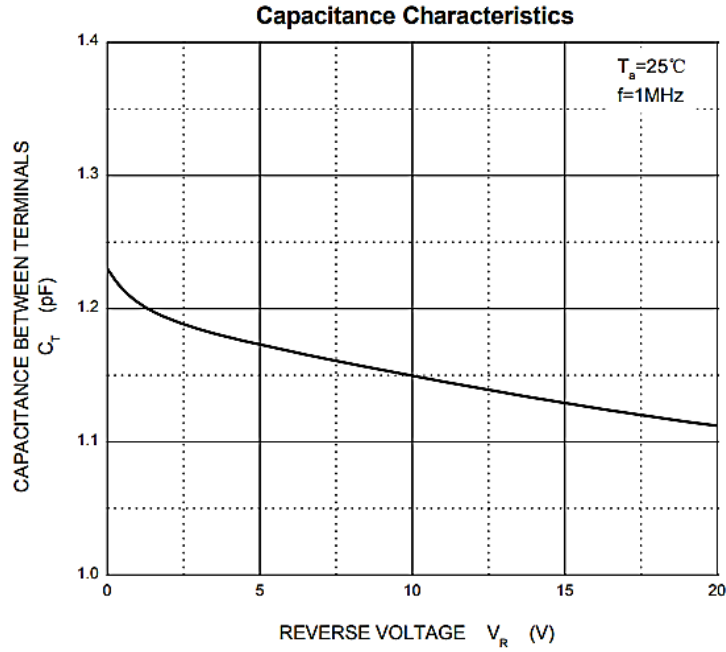
**ELECTRICAL CHARACTERISTICS**-  $T_A=25^{\circ}\text{C}$  unless otherwise specified, For Reference Only

PARAMETER	SYMBOLS	VALUE			UNIT	TEST CONDITIONS
		Min.	Typ.	Max.		
Reverse Breakdown Voltage	V (BR)1	100			V	$I_R=100\mu\text{A}$
	V (BR)2	75			V	$I_R=5\mu\text{A}$
Forward Voltage	V <sub>F</sub>			1	V	$I_F=10\text{mA}$
Reverse Current	I <sub>R1</sub>			5	$\mu\text{A}$	$V_R=75\text{V}$
	I <sub>R2</sub>			25	nA	$V_R=25\text{V}$
Capacitance Between Terminals	C <sub>T</sub>			4	pF	$V_R=0\text{V}$ , $f=1\text{MHz}$
Reverse Recovery Time	t <sub>rr</sub>			4	ns	$I_F=I_R=10\text{mA}$ , $V_R=6\text{V}$ $I_{rr}=0.1 \times I_R$ , $R_L=100\Omega$

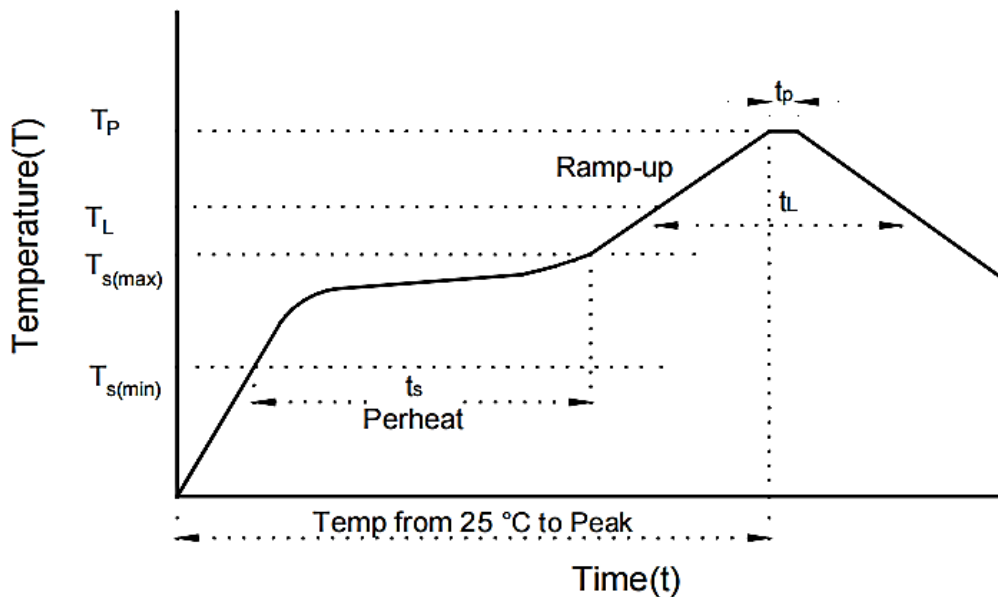
**TYPICAL CHARACTERISTICS CURVES**- For Reference Only,  $T_a=25^\circ\text{C}$  Unless Otherwise Specified.



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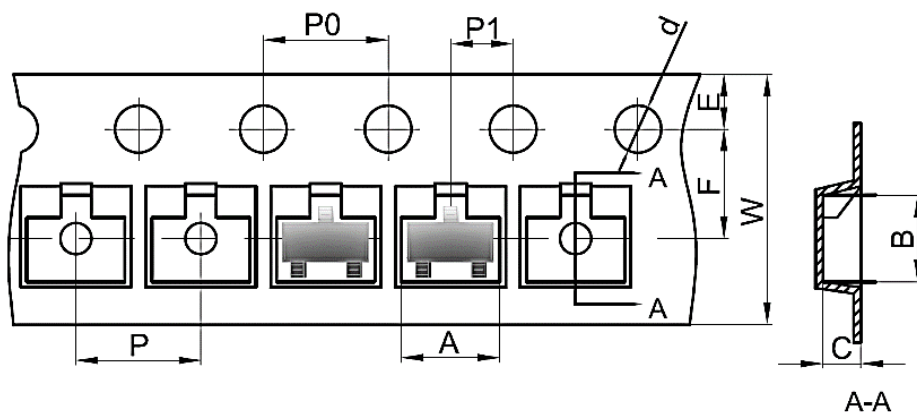




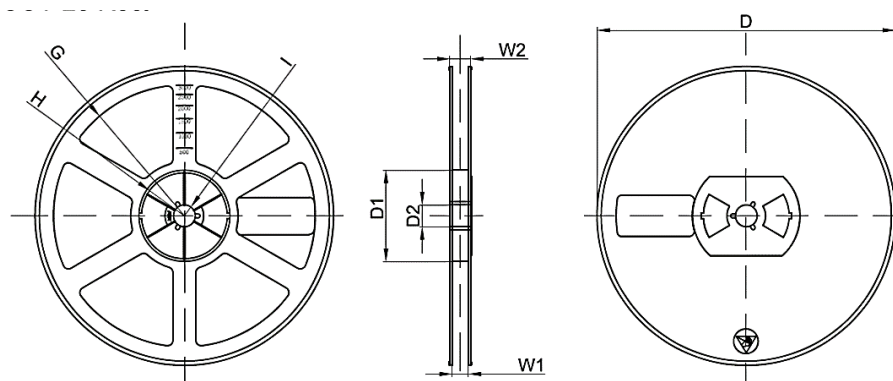
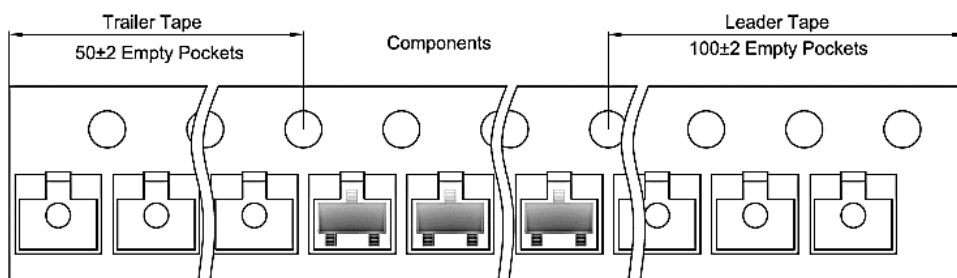
**SUGGESTED REFLOW PROFILE - For Reference Only**


PROFILE FEATURE		PB-FREE ASSEMBLY
Average Ramp-up Rate ( $T_L$ Max to $T_p$ )		3°C/second Max
Preheat	Temperature Min ( $T_s$ Min.)	150°C
	Temperature Max ( $T_s$ Max.)	200°C
	Time ( $t_s$ Min. to $t_s$ Max.)	60 ~ 180 seconds
Time maintained above	Temperature ( $T_L$ )	217°C
	Time ( $t_L$ )	60 ~ 150 seconds
Peak/Classification Temperature ( $T_p$ )		260 °C
Time within 5°C of actual Peak Temperature ( $t_p$ )		10 seconds Max.
Ramp-down Rate		6 °C /Second Max.
Time 25 °C to Peak Temperature		8 Minutes Max.
Suggest reflow times		3 Times Max.

**TAPE/REEL** - Unit: mm, All Devices are packed in accordance with EIA standard RS-481-A and specifications



Case	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.5	1.75	3.5	4.0	4.0	2.0	8.0



Reel Size	D	D1	D2	G	H	I	W1	W2	Qty. (pcs)
7"	Ø178	54.4	13.0	R78.0	R25.6	R6.5	9.5	12.3	3000

## IMPORTANT NOTES AND DISCLAIMER

1. **ROHS COMPLIANCE:** The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU RoHS Directive (EU) 2015/863 EC (RoHS3). RoHS Test Report for this product can be obtained at Download Center.
2. **REACH COMPLIANCE:** REACH substances of high concern (SVHCs) information is available for this product. Since the European Chemical Agency (ECHA) has published notice of their intent to frequently revise the SVHC listing for the foreseeable future, REACH Test Report for this product can be obtained at Download Center.
3. All Product parametric performance is indicated in the Electrical Characteristics for the listed herein test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
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