

General Characteristics



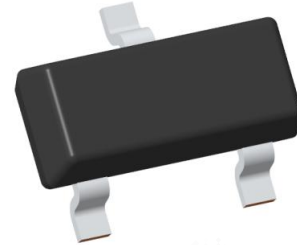
V_R	$V_{F(Max)}$	I_{FM}	I_{FSM}	T_{jMax}
100V	1V@ $I_F=10mA$	300mA	2.0A	150°C

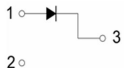
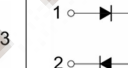
Features

- SOT23 Package
- Epoxy meets UL-94 V-0 flammability rating and halogen free
- Moisture Sensitivity Level 3
- High temperature soldering guaranteed 260°C/10seconds at terminals

Applications

- Extreme fast switches
- Automotive



MMBD4148A	MMBD4148CA	MMBD4148CC	MMBD4148SE
			
MARKING:5H	MARKING:D6	MARKING:D5	MARKING:D4
			

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MMBD4148A	SOT-23	5H	3000
MMBD4148CA	SOT-23	D6	3000
MMBD4148CC	SOT-23	D5	3000
MMBD4148SE	SOT-23	D4	3000

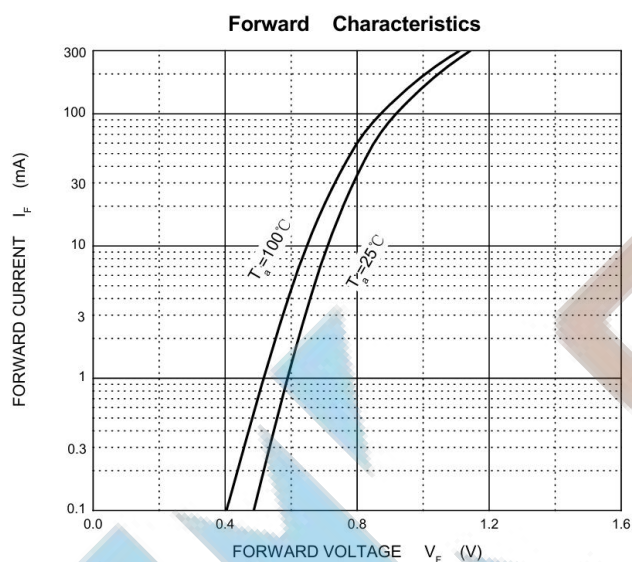
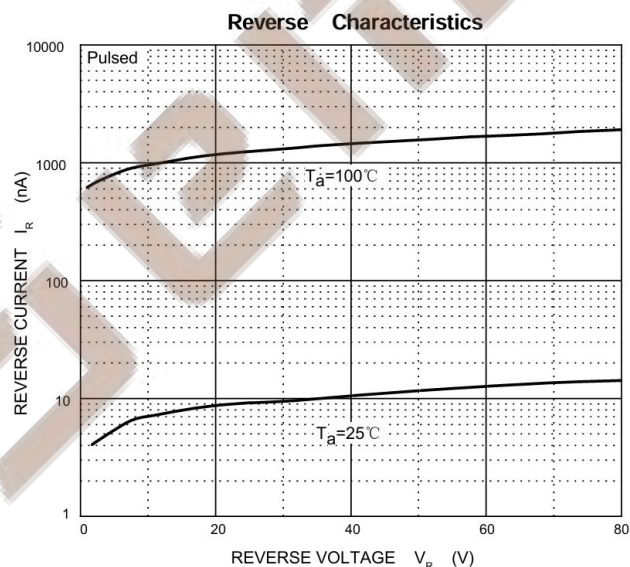
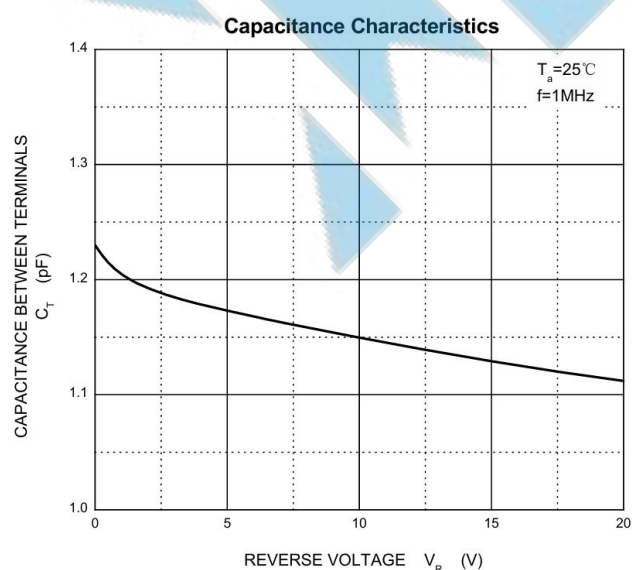
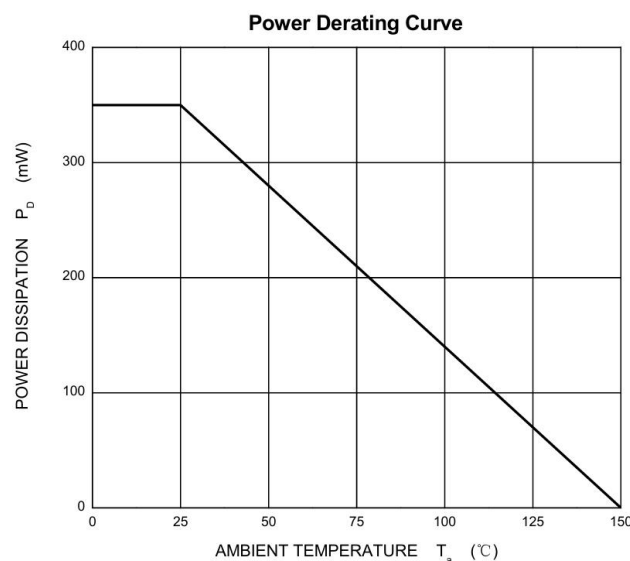
Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbols	Value	Units
Non-Repetitive Peak Reverse Voltage	VRM	100	V
Peak Repetitive Peak Reverse Voltage	VRRM	100	V
Working Peak Reverse Voltage	VRWM		
DC Blocking Voltage	VR		
RMS Reverse Voltage	VR(RMS)	72	V
Forward Continuous Current	IFM	300	mA
Average Rectified Output Current	IO	200	mA
Non-Repetitive Peak Forward Surge Current @t=8.3ms	IFSM	2.0	A
Power Dissipation	PD	350	mW
Thermal Resistance Junction to Ambient	RθJA	357	°C/W
Operation Junction and Storage Temperature Range	Tj, Tstg	-55-+150	°C

Electrical Characteristics (Ta=25°C, unless otherwise noted)

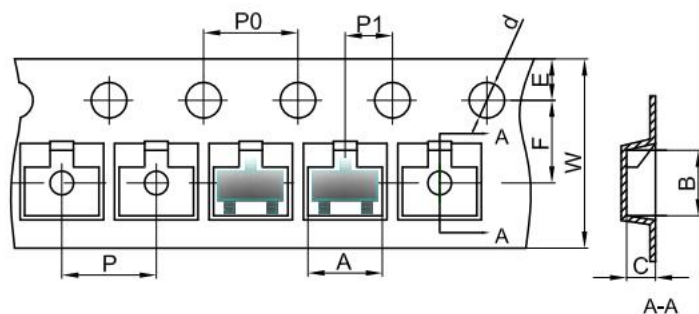
Parameter	Symbol	Conditions	Min.	Max.	Unit
Reverse breakdown voltage	V(BR)	IR=100uA	100		V
		IR=5uA	75		
Reverse current	IR	VR=75V		5	uA
		VR=25V		25	nA
Forward Voltage	VF	IF=10mA		1	V
Reverse Recovery Time	TRR	IF=IR=10mA, RL=100 Ω, IRR=0.1 X IR, VR=6V		4	nS
Capacitance between terminals	CT	VR=0V, f=1MHZ		4	pF

Typical Characteristics



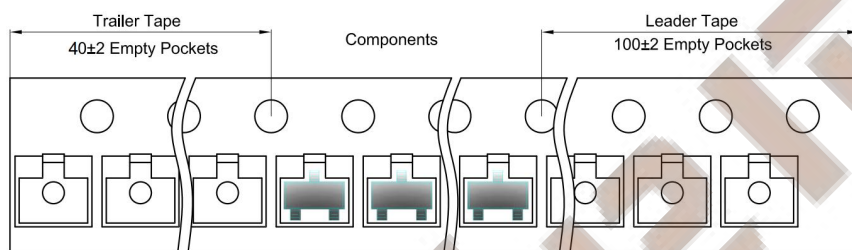
Package Information

Carrier Dimension(mm)

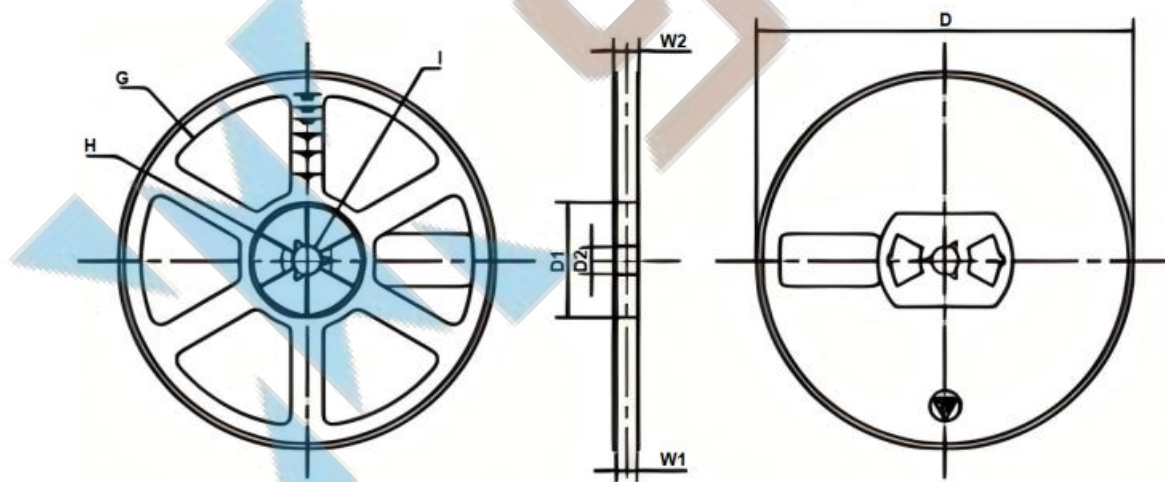


Dimensions are in millimeter

Pkg Type	A0	A1	B0	B1	K0	D0	D1	E	F	P0	P1	P2	10*P0	W	T
SOT-23	3.15	1.09	2.77	2.15	1.22	1.55	1.00	1.75	3.50	4.00	4.00	2.00	40.00	8.00	0.20
(Tolerance)	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.2	±0.1	±0.03



Reel Dimension(mm)



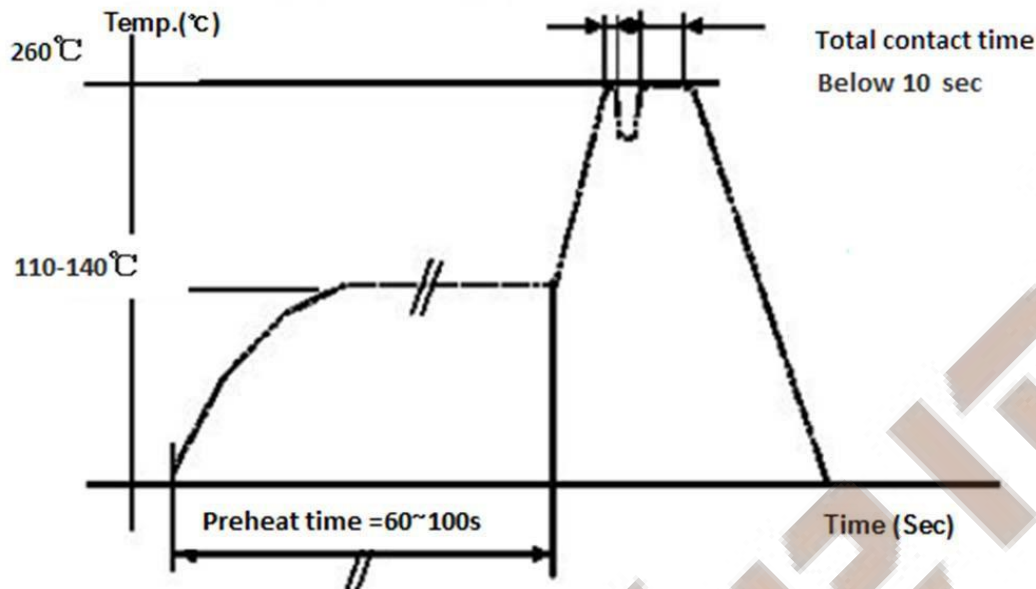
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Φ178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30
Tolerance	±2	±1	±1	±1	±1	±1	±1	±1

Package Specifications

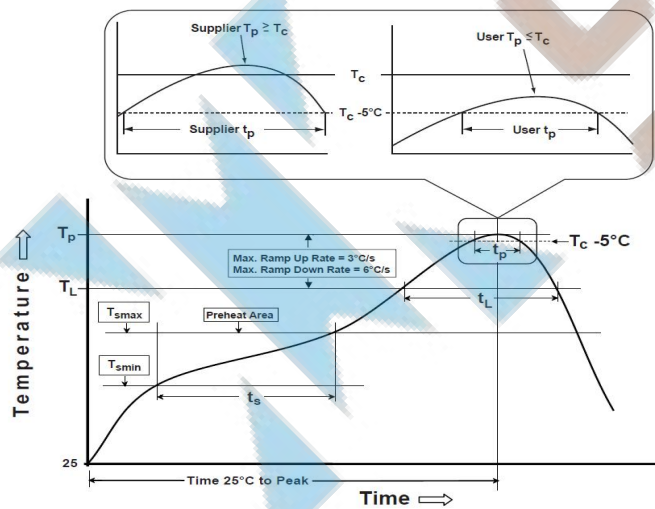
Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (Kpcs)	Box Size (mm)	QTY/Box (Kpcs)	Carton Size (mm)	Q'TY/Carton (Kpcs)
SOT23	7'	178	3	210*208*203	45	440*400*230	180

Recommended Soldering Profile for Rectifier Diodes (Pb Free)

a) Wave Soldering Profile



b) Reflow Soldering Profile (Pb Free Application), refer to IPC/JEDEC J-STD-020

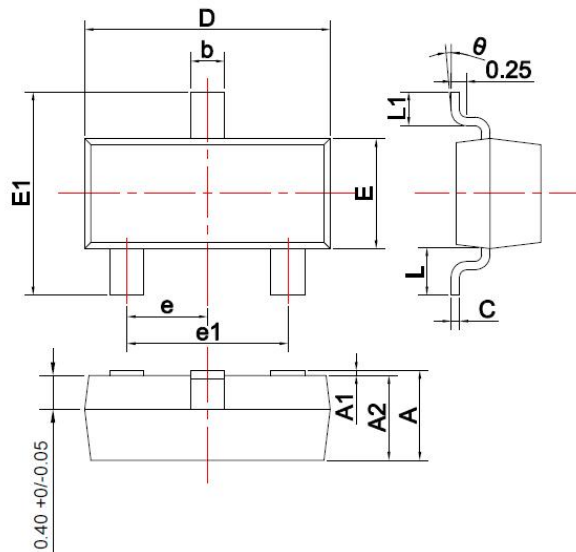


Preheat/Soak Temperature Min (Tsmin) Temperature Max (Tsmax) Time (ts) from (Tsmin to Tsmax)	50 °C 200 °C 60-120 seconds
Melting Point of Solder (Sn Ag Cu)	217°C
Ramp-up Rate to 217°C(Melting Point of Solder)	3°C/sec
Time at Temp.>217°C (Melting Point of Solder)	60~150 Sec
Peak Temperature	255±5°C
Time within 5°Cbelow Peak Temp.	20~40 Sec
Cooling Rate	6°C/sec (max)
Time from 25°C to Peak Temp.	8min (max)

c) Manual Soldering

When using an electric soldering iron for manual soldering, it is recommended that the temperature does not exceed 300°C and the soldering time is less than 10 seconds.

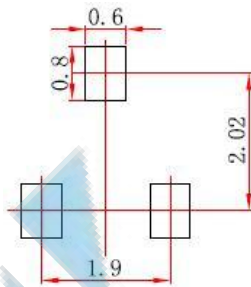
Package Mechanical Data



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Unit: mm

Suggested Pad Layout



Note:
 1. Controlling dimension: In millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

Disclaimer

The information presented in this document is for reference only. Yancheng **Xirun Semiconductor Co., Ltd** reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), **Xirun Semiconductor** or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.x-semi.cn](http://www.x-semi.cn) , or consult your nearest **Xirun Semiconductor's** sales office for further assistance.