

SuperDiode – 4nS, 350mW, 200mA SOT-23 Plastic-Encapsulate Switching Diode

1. Features

- Fast switching device ($T_{rr} < 4.0ns$)
- Power dissipation of 350mW
- High stability and high reliability
- Low reverse leakage

2. Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

3. Marking and Circuit

MMBD4148A	MMBD4148CA	MMBD4148CC	MMBD4148SE

4. Specification

Absolute Maximum Rating & Thermal Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameters	Symbol	Limit	Unit
Reverse voltage	V_R	75	V
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Power Dissipation	P_D	350	mW
Average Rectified Current	I_o	200	mA
Peak forward surge current @ $t_p=8.3ms$; $T_A=25^{\circ}C$	I_{FSM}	2.0	A
Operating junction temperature	T_j	150	$^{\circ}C$
Storage temperature range	T_{STG}	-55~150	$^{\circ}C$
Typical thermal resistance from junction to ambient	$R_{\theta JA}$	357	$^{\circ}C/W$

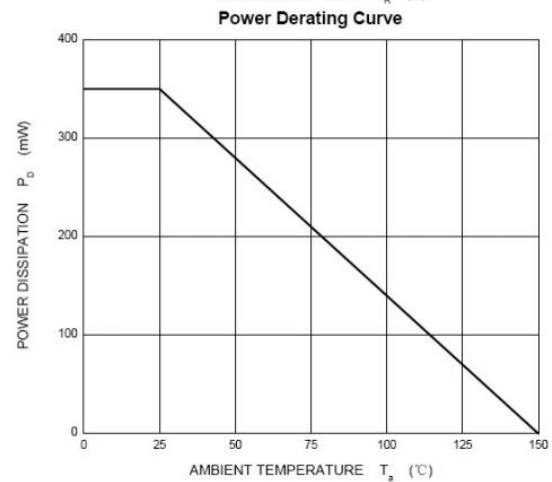
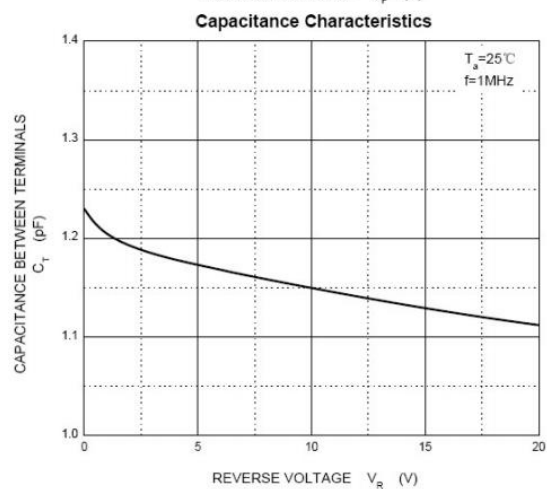
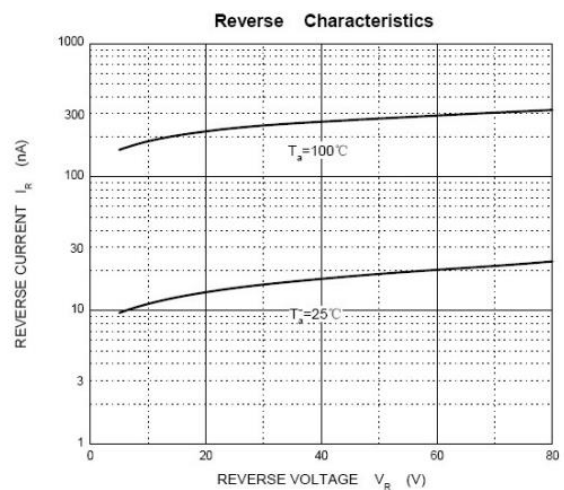
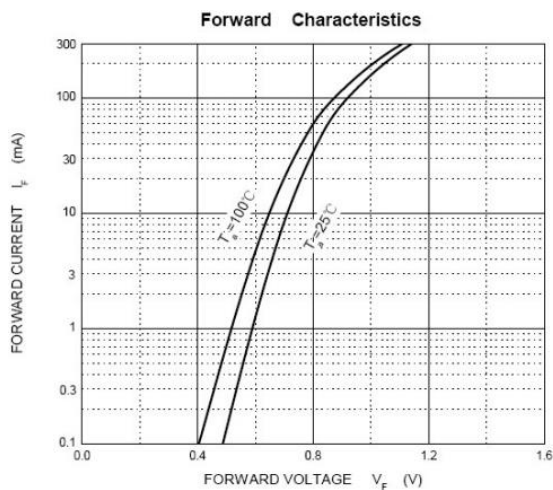
Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics

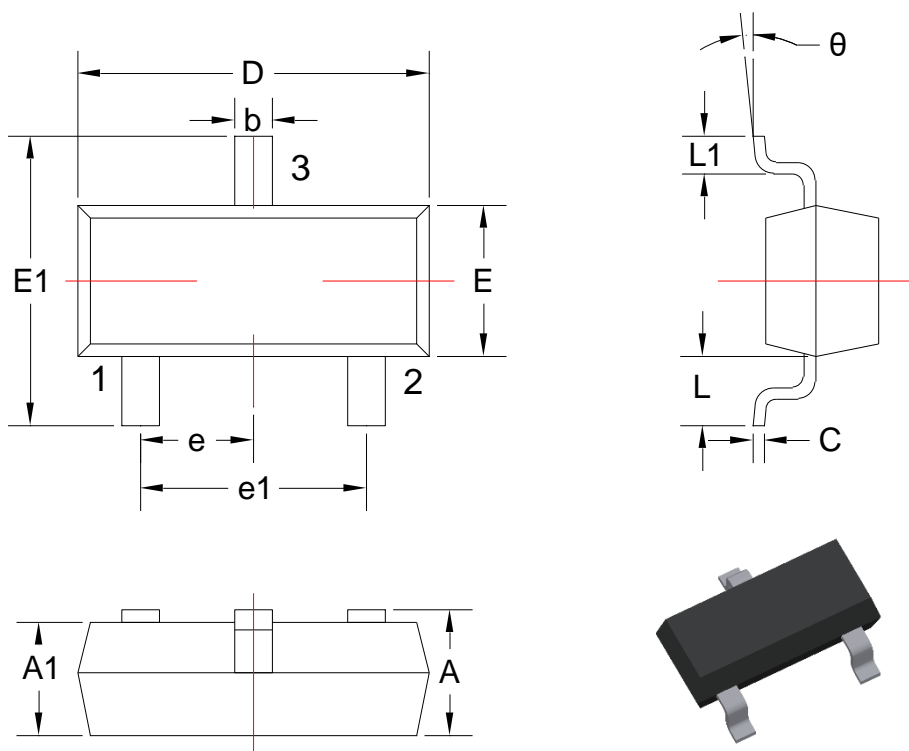
At TA = 25°C unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Forward voltage	V_F	$I_F=10\text{mA}$			1.00	V
Reverse breakdown voltage	V_R	$I_R=100\mu\text{A}$	75			V
Reverse leakage current	I_R	$V_R=75\text{V}$			5.0	μA
		$V_R=25\text{V}$			25	nA
Type junction capacitance	C_j	$V_R=0\text{V}, f=1\text{MHz}$			4	pF
Reverse recovery time	T_{RR}	$I_F=I_R=10\text{mA}$ $I_{rr}=0.1 \times I_R, R_L=100\Omega$			4	ns

5. Typical Characteristic

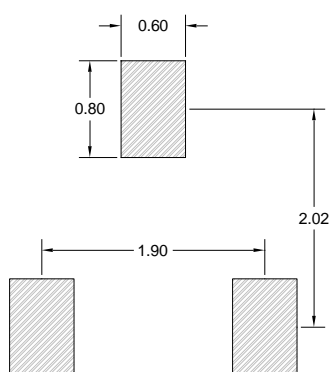


6. Dimension and Patterns (SOT-23)



Units: mm

Symbol	Dimensions		Symbol	Dimensions	
	Min.	Max.		Min.	Max.
A	0.900	1.150	E1	2.250	2.550
A1	0.900	1.050	e	0.950TYP	
b	0.300	0.500	e1	1.800	2.000
c	0.080	0.150	L	0.550REF	
D	2.800	3.000	L1	0.300	0.500
E	1.200	1.400	θ	0°	8°



Note:

1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference only
4. Unit: mm

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