MMBD4148

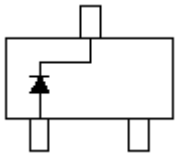
SURFACE MOUNT SWITCHING DIODE

Rev.2.1

FEATURES

- ✧ Fast Switching Speed
- ✧ RoHS Compliant/Green EMC
- ✧ For General Purpose Switching Applications
- ✧ High Conductance
- ✧ Low Current Leakage
- ✧ Small Outline Surface Mount Package

SOT-23



Symbol

MECHANICAL DATA

- ✧ Case: SOT-23, Plastic
- ✧ Weight: 0.004grams(approx.)
- ✧ Quantity Per Reel:3,000pcs
- ✧ Type Code: KA2

ABSOLUTE MAXIMUM RATING CHARACTERISTICS

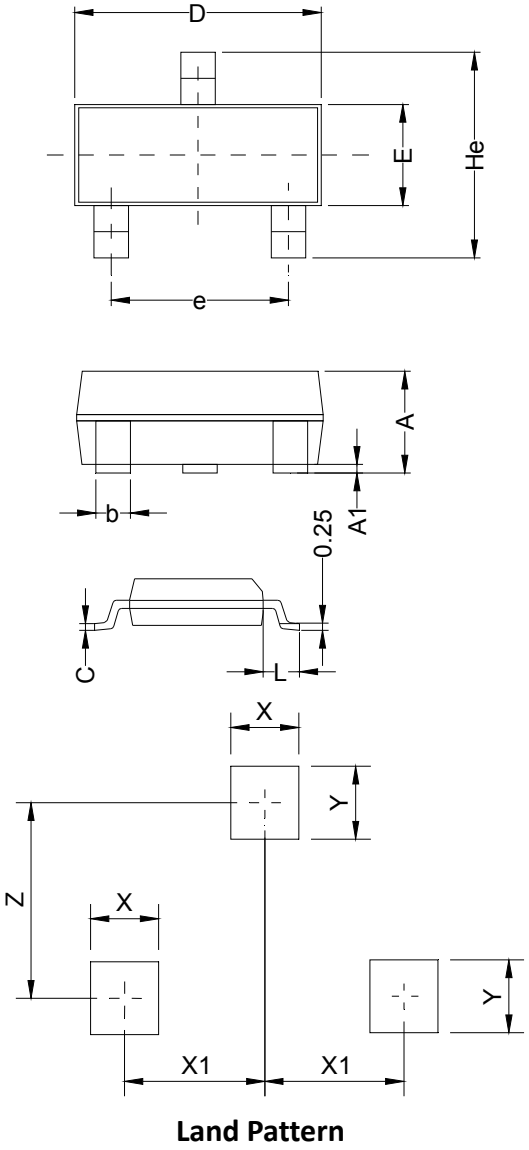
(Rating at 25℃ ambient temperature unless otherwise specified.)

Parameter	Symbol	MMBD4148	Unit
Continuous Reverse Voltage	V_R	75	V
Peak Repetitive Reverse Voltage	V_{RM}	100	V
Average Rectified Output Current	I_O	150	mA
Non-repetitive Peak Forward Surge Current at t_P=1s	I_{FSM}	1	A
Power Dissipation at T_A=25℃	P_D	350	mW
Thermal Resistance (Junction to Ambient)	$R_{\theta JA}$	357	℃/W
Operating Junction Temperature Range	T_j	-55 to +150	℃
Storage Temperature Range	T_{stg}	-55 to +150	℃

ELECTRICAL CHARACTERISTICS(Rating at 25℃ ambient temperature unless otherwise specified.)

Symbol	Parameter	Conditions	Value			Unit
			Min.	Typ.	Max.	
$V_{(BR)R}$	Breakdown Voltage	I_R=100μA	100	-	-	V
V_F	Forward Voltage	I_F=5mA	0.62		0.72	V
		I_F=10mA	-	-	0.855	V
		I_F=100mA	-	-	1	V
I_R	Reverse Current	V_R=20V,T_j=25℃	-	-	25	nA
		V_R=75V	-	-	5	μA
rf	Dynamic Forward Resistance	I_F=200mA	5	-	-	Ω
C_T	Capacitance	V_R=0V,f=1MHz	-	2	-	pF
Trr	Reverse Recovery Time	I_F= 10mA,V_R=6V I_{RR}=1mA,R_L=100Ω	-	-	4	ns

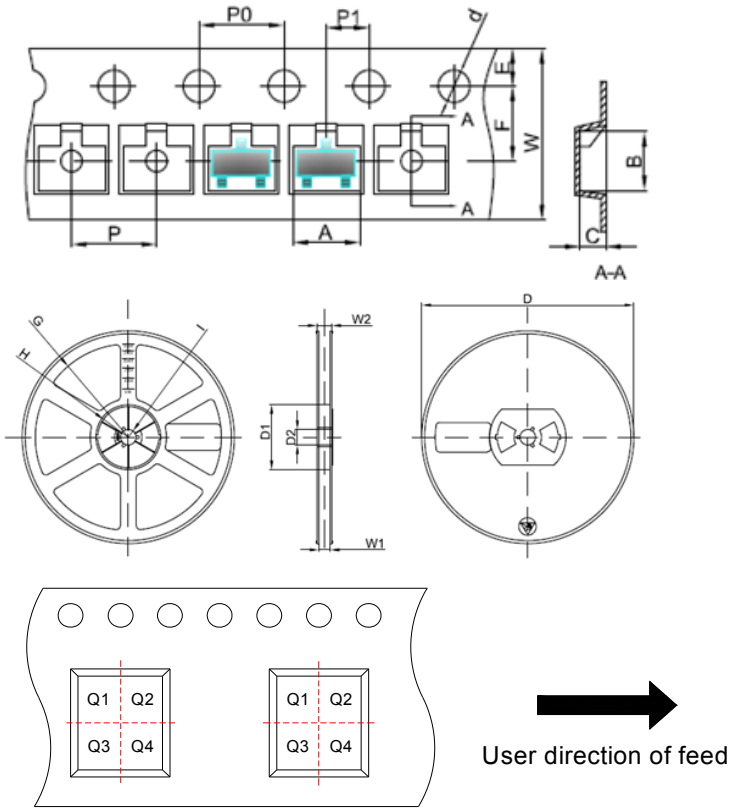
PACKAGE MECHANICAL DATA



Land Pattern

Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.90	1.063	1.15	0.035	0.042	0.045
A1	0.00	0.075	0.14	0.000	0.003	0.006
b	0.30	0.40	0.50	0.012	0.016	0.020
C	0.07	0.10	0.15	0.003	0.004	0.006
D	2.80	2.90	3.00	0.110	0.114	0.118
e	1.80	1.90	2.00	0.071	0.075	0.079
E	1.20	1.30	1.40	0.047	0.051	0.055
L	0.55REF			0.022REF		
He	2.25	2.40	2.55	0.089	0.094	0.100
X	0.80			0.031		
X1	0.95			0.037		
Y	0.80			0.031		
Z	2.02			0.080		

TAPE AND REEL SPECIFICATION-SOT-23



Pin 1 quadrant: Q3

Packaging Description:

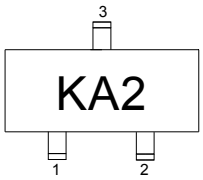
SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000units per 7" or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

Symbol	Millimeters	Inches
	Typ.	Typ.
A	3.15	0.124
B	2.77	0.109
C	1.22	0.048
d	Φ1.50	Φ0.059
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	4.00	0.157
P1	2.00	0.079
W	8.00	0.315
D	Φ178	Φ7.008
D1	54.40	2.142
D2	13.00	0.512
G	R78.00	R3.071
H	R25.60	R1.008
I	R6.50	R0.256
W1	9.50	0.374
W2	12.30	0.484

ORDERING INFORMATION

OUTLINE	UNIT WEIGHT (g/PCS) typ.	PACKAGE TYPE	QUANTITY REEL	DESCIPTION
TAPING	0.004	SOT-23	3,000	7 inch reel pack

MARKING CODE

Part Number	Marking Code
MMBD4148	

CHARACTERITICS CURVE

FIG.1: Typical forward characteristics

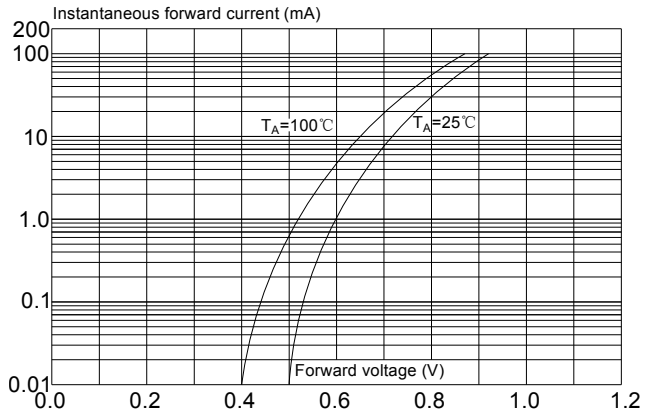


FIG.2: Typical reverse characteristics

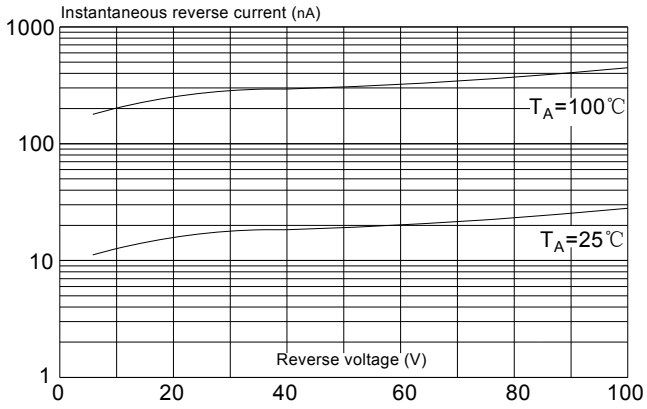


FIG.3: Typical capacitance characteristics

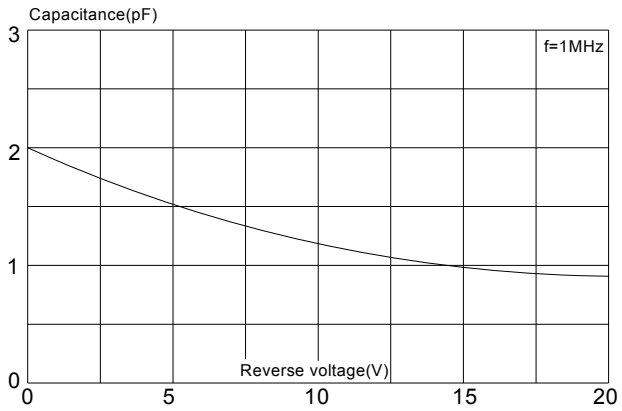
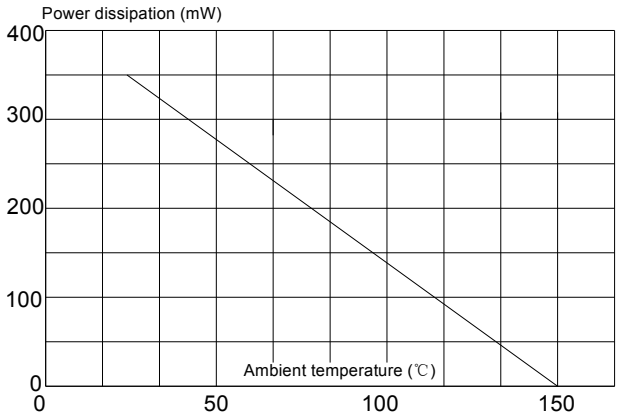


FIG.4: Power derating curve



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