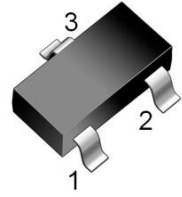


### FEATURES

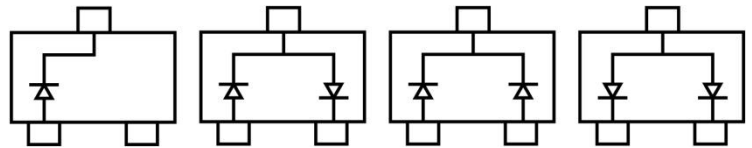
- Fast Switching
- High Conductance
- Surface Mount device
- For General Purpose Switching Applications



SOT-23

### MECHANICAL DATA

- Case: SOT-23
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.008 grams (approximate)



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

### MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise noted)

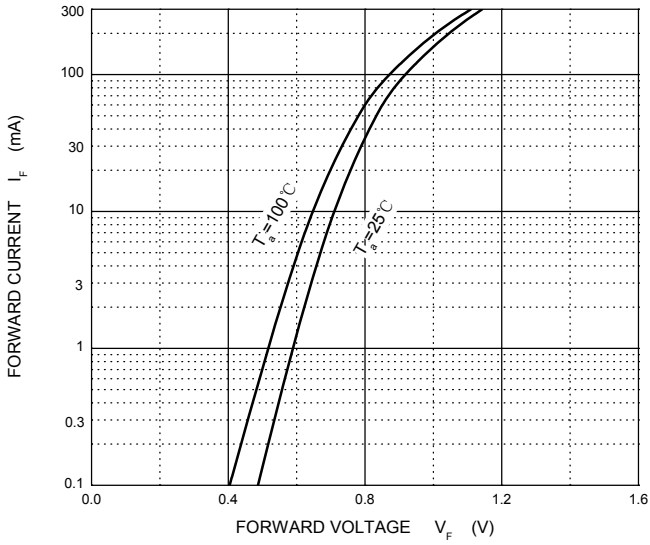
Parameter	Symbol	Value	Unit
Reverse Voltage	V <sub>R</sub>	100	V
Forward Current	I <sub>F</sub>	300	mA
Power Dissipation	P <sub>D</sub>	350	mW
Thermal Resistance From Junction To Ambient	R <sub>θJA</sub>	357	°C/W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~+150	°C

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise specified)

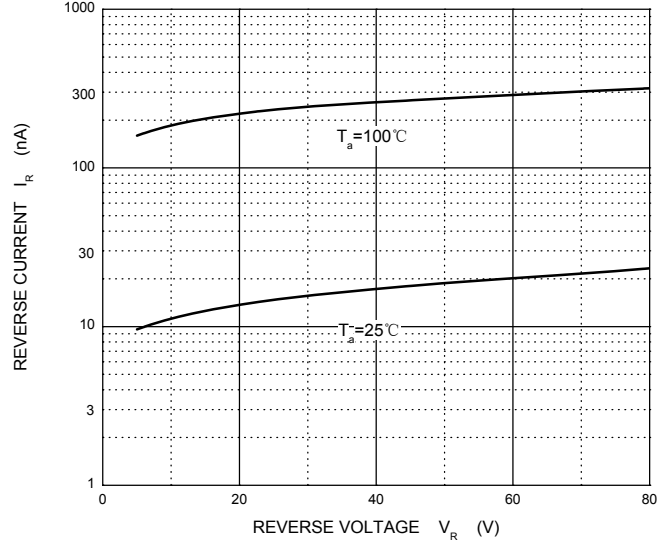
Parameter	Symbol	Min	Max	Unit	Conditions
Reverse breakdown voltage	V <sub>(BR)</sub>	100		V	I <sub>R</sub> =100uA
Reverse voltage leakage current	I <sub>R</sub>		5	uA	V <sub>R</sub> =75V
Forward voltage	V <sub>F</sub>		1	V	I <sub>F</sub> =10mA
Diode capacitance	C <sub>D</sub>		4	pF	V <sub>R</sub> =0V, f=1MHz
Reverse recovery time	T <sub>rr</sub>		4	nS	I <sub>F</sub> =I <sub>R</sub> =10mA I <sub>rr</sub> =0.1×I <sub>R</sub> R <sub>L</sub> =100Ω

**Typical Characteristics**

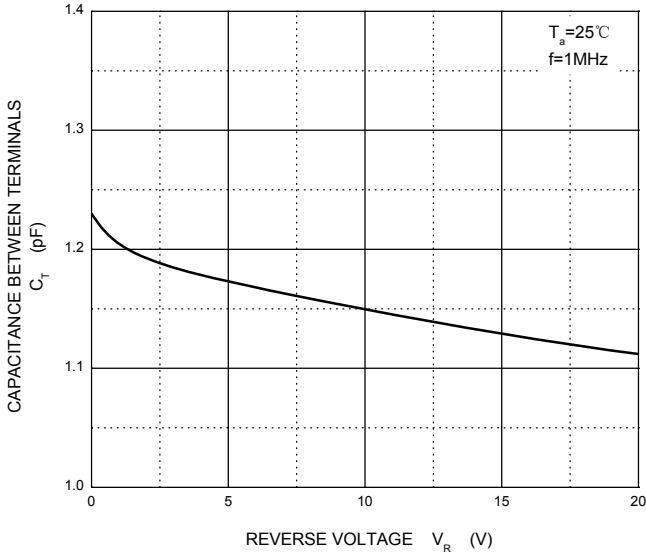
**Forward Characteristics**



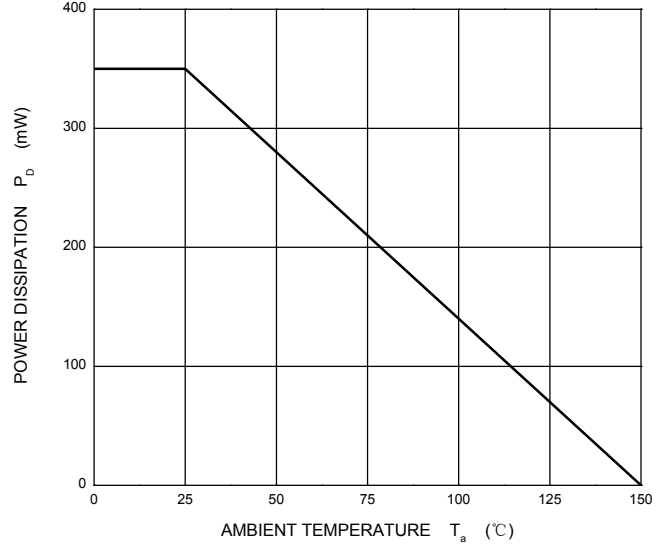
**Reverse Characteristics**

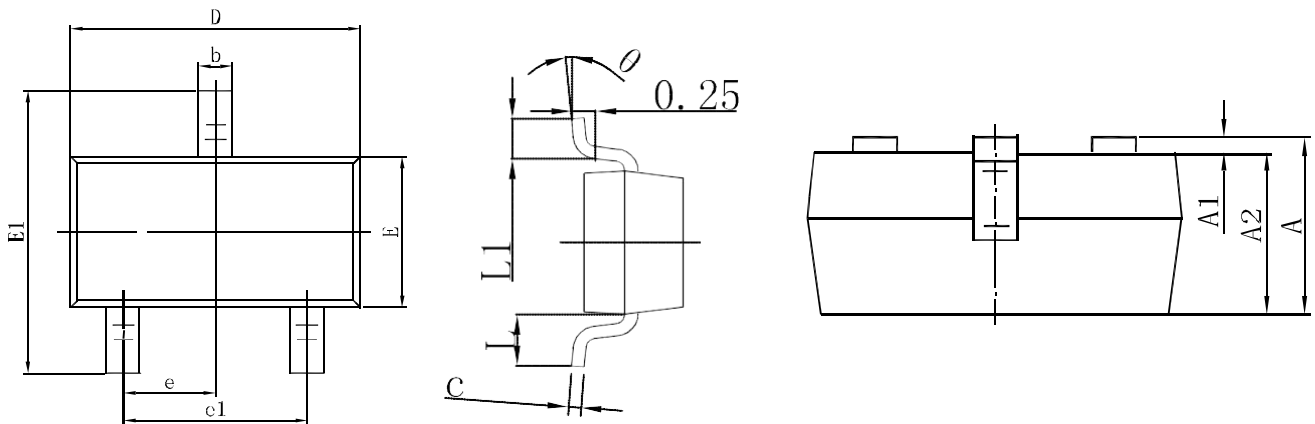


**Capacitance Characteristics**

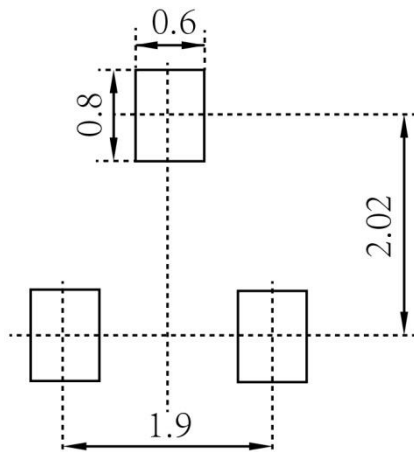


**Power Derating Curve**



**SOT-23 Package Outline Dimensions**


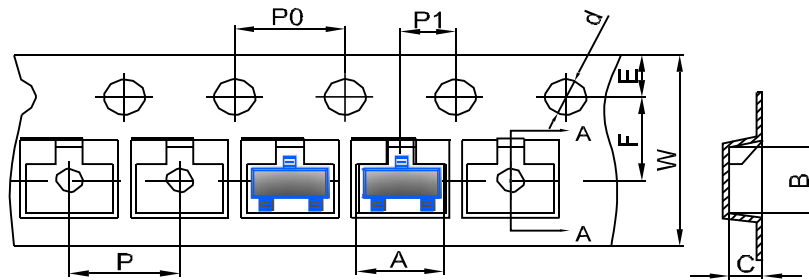
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
$\theta$	0°	8°	0°	8°

**SOT-23 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

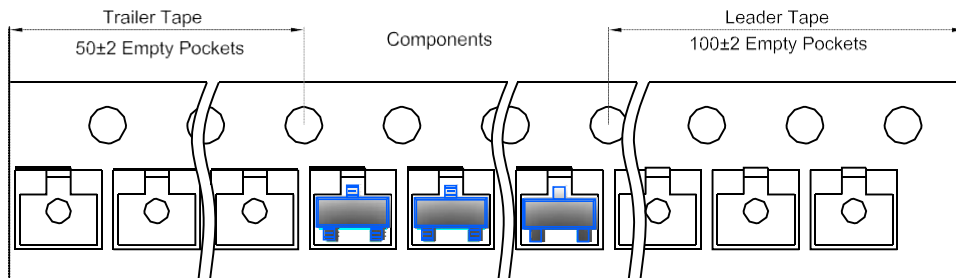
**SOT-23 Tape and Reel**

**SOT-23 Embossed Carrier Tape**

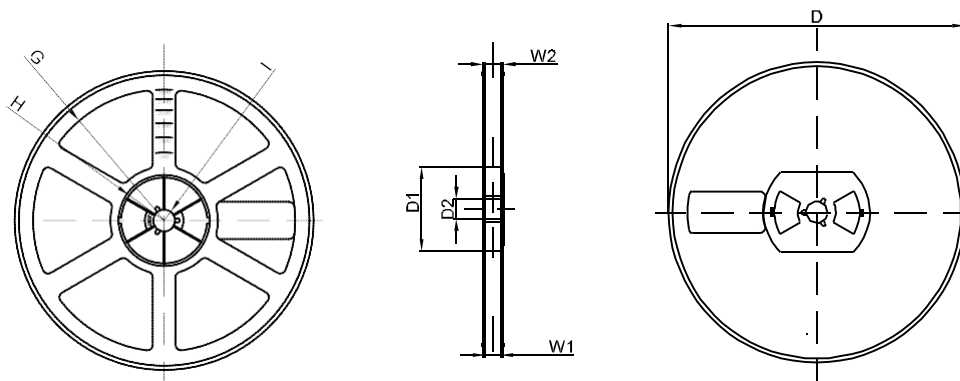


DIMENSIONS ARE IN MILLIMETER									
TYPE	A	B	C	d	E	F	P0	P	P1
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**SOT-23 Tape Leader and Trailer**



**SOT-23 Reel**



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1