



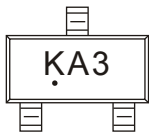
## SOT-23 Plastic-Encapsulate Diodes

### MMBD4448 SWITCHING DIODE

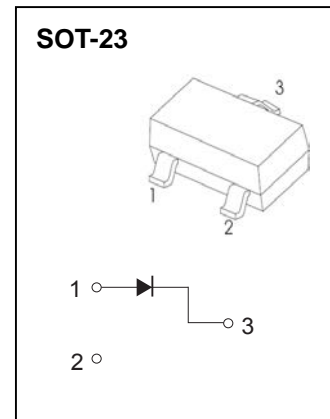
#### FEATURES

- Fast switching speed
- Surface mount package ideally suited for automatic insertion
- For general purpose switching applications
- High conductance

#### MARKING: KA3



KA3 = Device code  
Solid dot = Green molding compound device.



#### Maximum Ratings and Electrical Characteristics, Single Diode @T<sub>a</sub>=25 °C

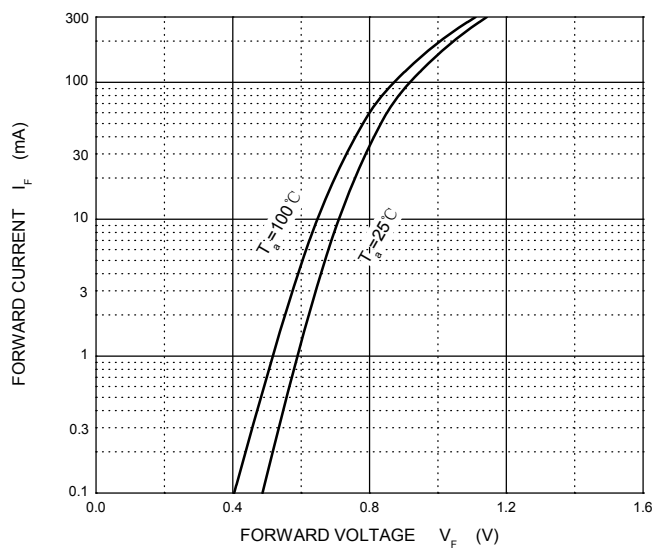
Parameter	Symbol	Limit	Unit
Non-Repetitive Peak Reverse Voltage	V <sub>RM</sub>	100	V
Peak Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	75	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		
DC Blocking Voltage	V <sub>R</sub>		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	53	V
Forward Continuous Current	I <sub>FM</sub>	500	mA
Average Rectified Output Current	I <sub>O</sub>	250	mA
Non-Repetitive Peak Forward Surge Current @t=8.3ms	I <sub>FSM</sub>	2.0	A
Power Dissipation	P <sub>d</sub>	350	mW
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	357	°C /W
Operation Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 ~+150	°C

#### Electrical Ratings @T<sub>a</sub>=25°C

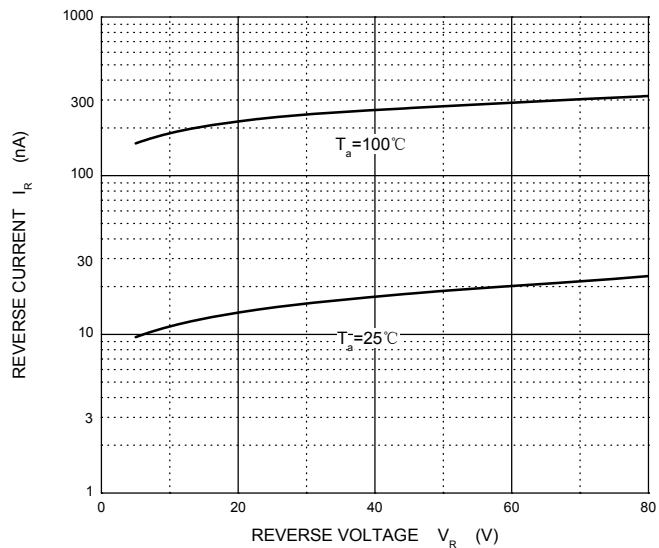
Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	V <sub>F1</sub>	0.62		0.72	V	I <sub>F</sub> =5mA
	V <sub>F2</sub>			0.855	V	I <sub>F</sub> =10mA
	V <sub>F3</sub>			1.0	V	I <sub>F</sub> =100mA
	V <sub>F4</sub>			1.25	V	I <sub>F</sub> =150mA
Reverse current	I <sub>R1</sub>			2.5	μA	V <sub>R</sub> =75V
	I <sub>R2</sub>			25	nA	V <sub>R</sub> =20V
Capacitance between terminals	C <sub>T</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> =0.1X I <sub>R</sub> , R <sub>L</sub> =100Ω

# Typical Characteristics

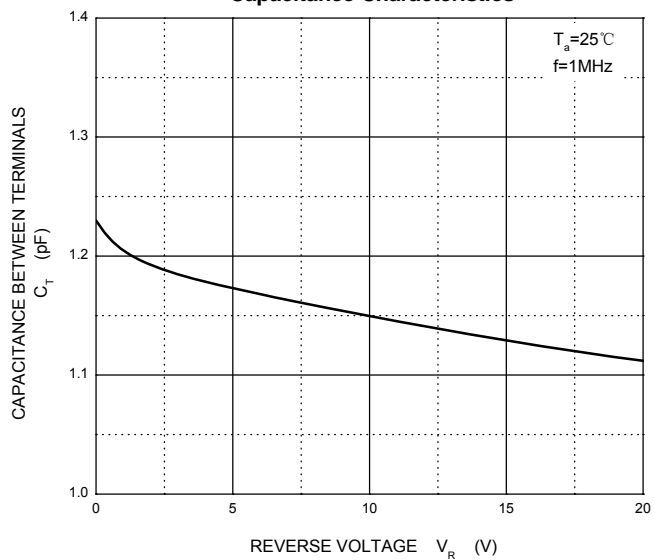
**Forward Characteristics**



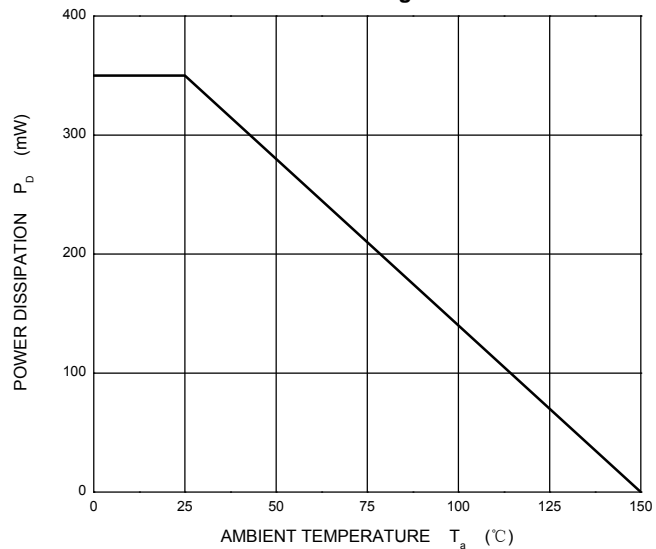
**Reverse Characteristics**



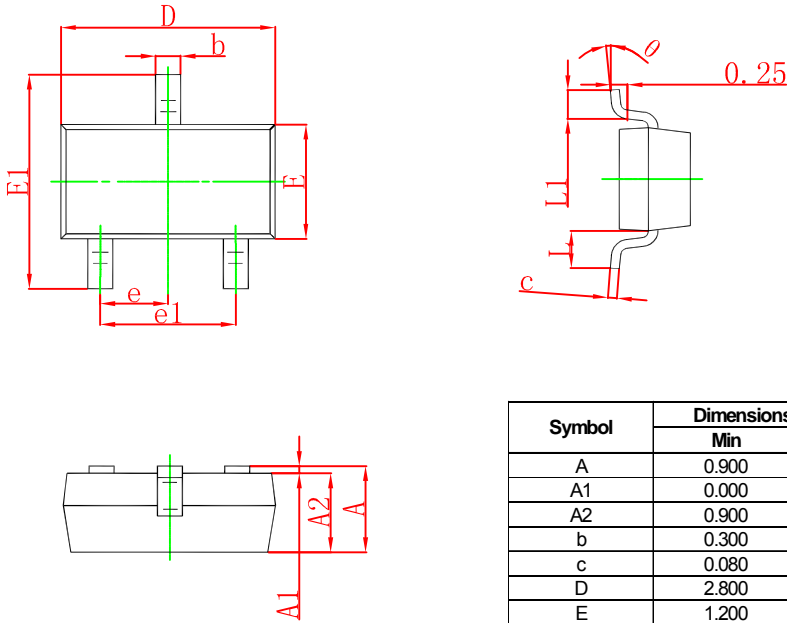
**Capacitance Characteristics**



**Power Derating Curve**

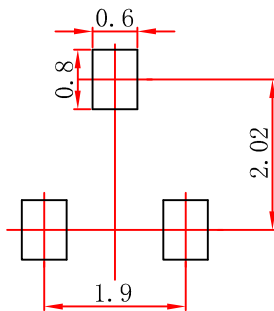


## SOT-23 Package Outline Dimensions



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
θ	0°	8°	0°	8°

## SOT-23 Suggested Pad Layout



**Note:**

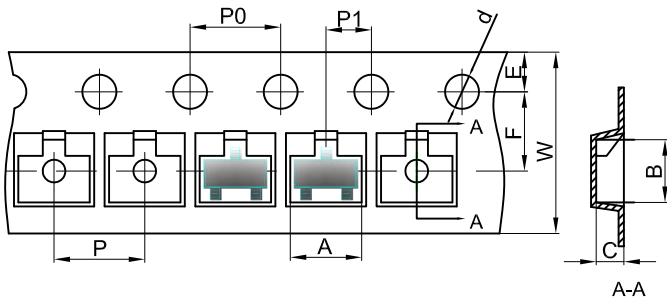
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

**NOTICE**

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

# SOT-23 Tape and Reel

## SOT-23 Embossed Carrier Tape



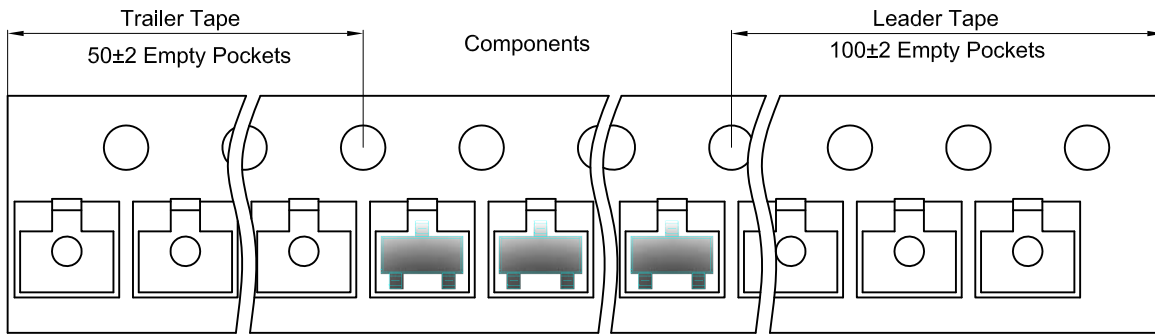
### Packaging Description:

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 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

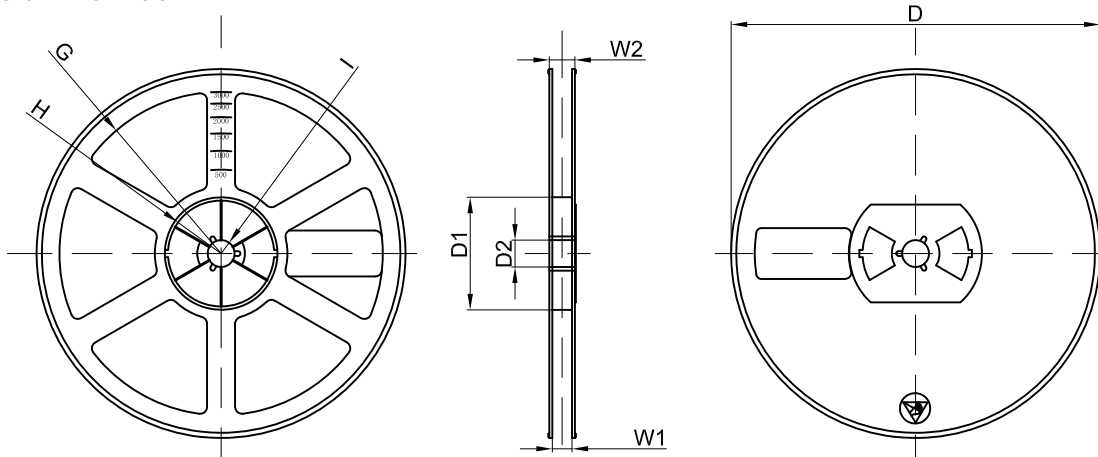
Dimensions are in millimeter

Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

## 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	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	