

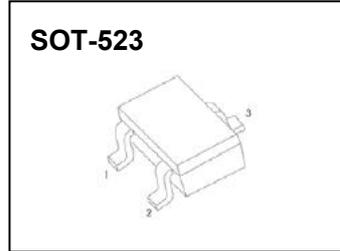
# SOT-523 Plastic-Encapsulate Diode

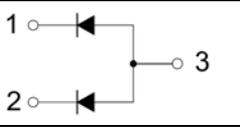
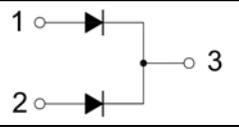
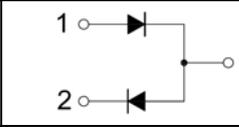
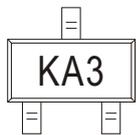
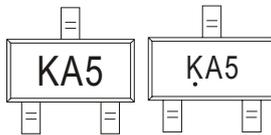
## MMBD4148AT/CT/ST

SWITCHING DIODE

### FEATURES

- Small Surface Mounting Type
- For General Purpose Switching Applications
- Fast Switching Speed
- High Conductance



MMBD4148AT	MMBD4148CT	MMBD4148ST
		
<b>MARKING: KA3</b>	<b>MARKING: KA4</b>	<b>MARKING:KA5</b>
		

Solid dot = Green molding compound device, if none, the normal device

### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted )

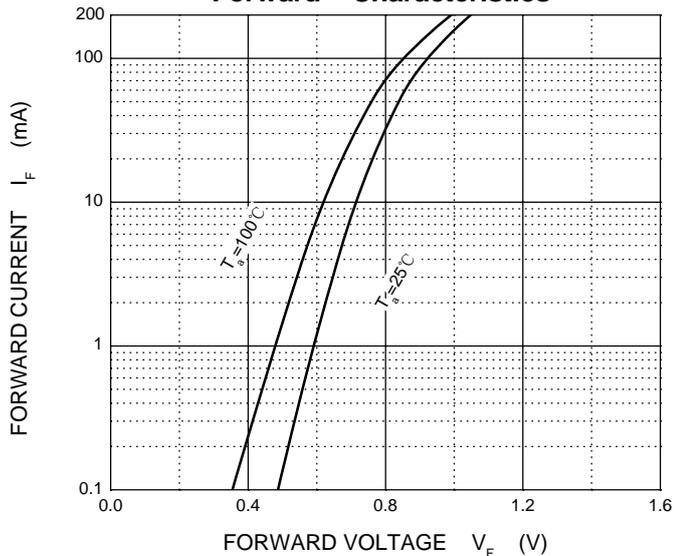
Symbol	Parameter	Value	Unit
$V_{RM}$	No-Repetitive Peak Reverse Voltage	100	V
$V_{RWM}$	Working Peak Reverse Voltage	75	V
$V_{R(RMS)}$	RMS Reverse Voltage	53	V
$I_O$	Continuous Forward Current	150	mA
$I_{FSM}$	Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	2	A
$P_D$	Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	833	$^{\circ}\text{C/W}$
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

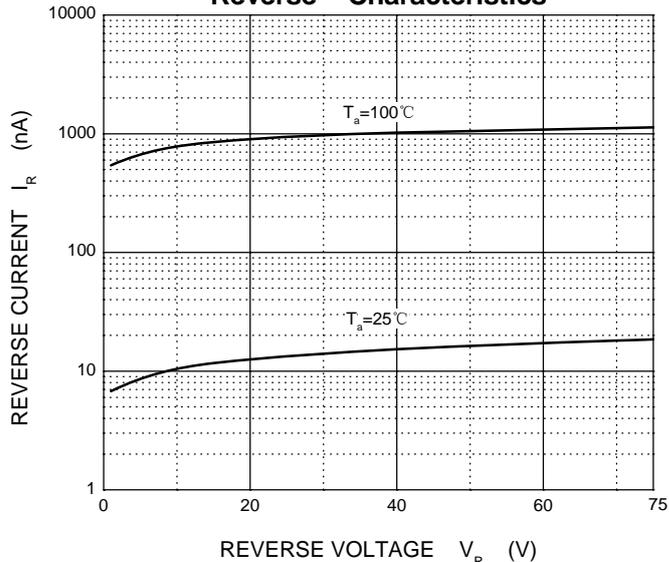
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	$I_R=10\mu\text{A}$	75			V
Reverse current	$I_R$	$V_R=75\text{V}$			1	$\mu\text{A}$
		$V_R=20\text{V}$			25	nA
Forward voltage	$V_F$	$I_F=1\text{mA}$			0.715	V
		$I_F=10\text{mA}$			0.855	V
		$I_F=50\text{mA}$			1	V
		$I_F=150\text{mA}$			1.25	V
Total capacitance	$C_{tot}$	$V_R=0, f=1\text{MHz}$			2	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

# Typical Characteristics

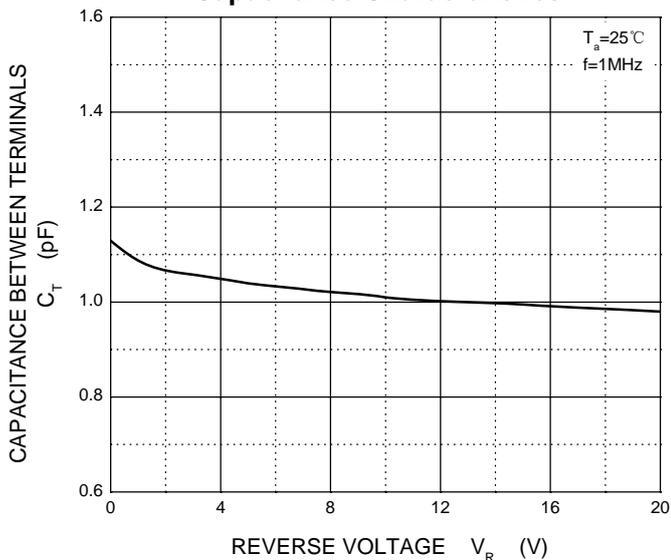
### Forward Characteristics



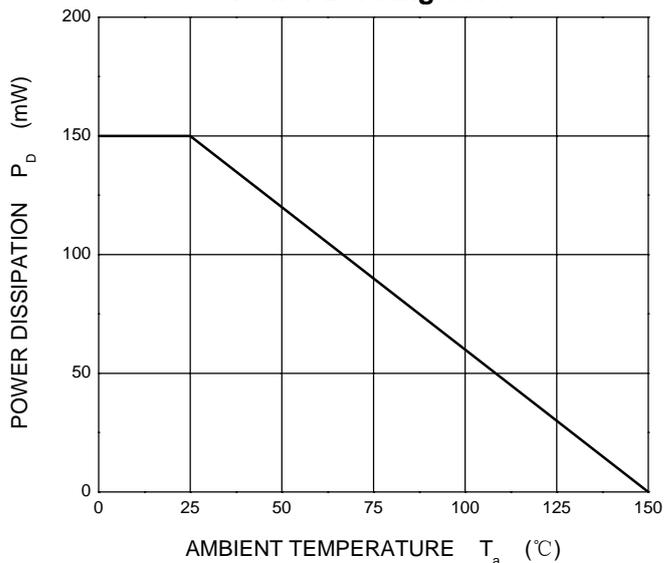
### Reverse Characteristics



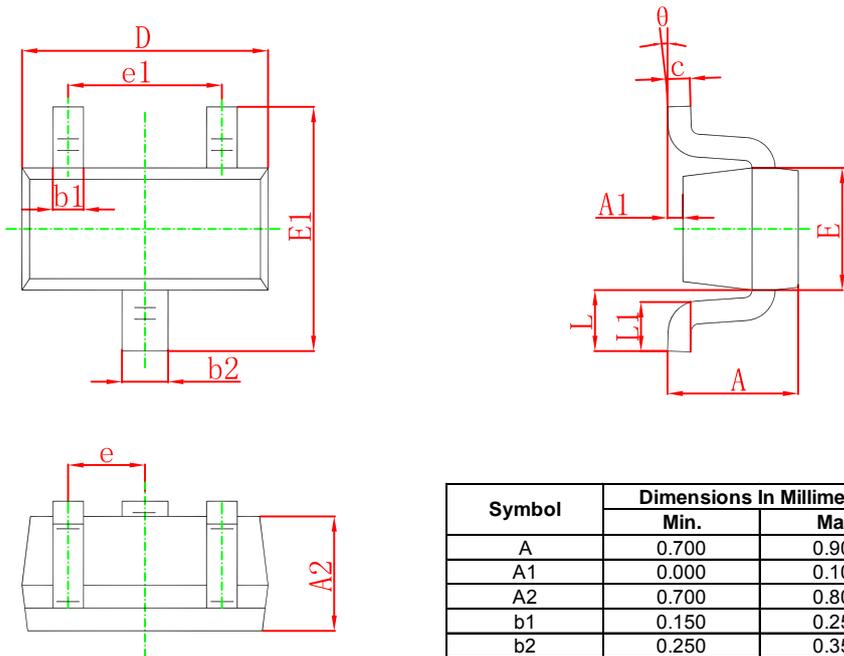
### Capacitance Characteristics



### Power Derating Curve

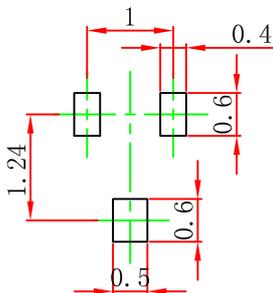


## SOT-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

## SOT-523 Suggested Pad Layout



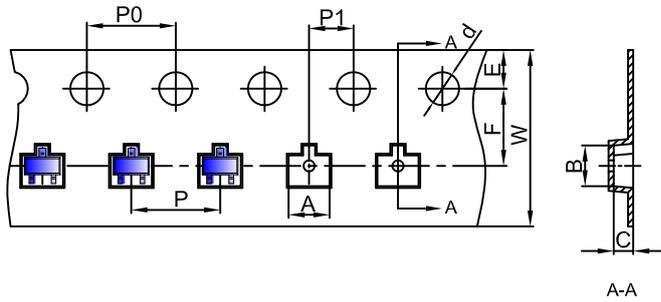
- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05\text{mm}$ .
  3. The pad layout is for reference purposes only.

### NOTICE

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

# SOT-523 Tape and Reel

## SOT-523 Embossed Carrier Tape



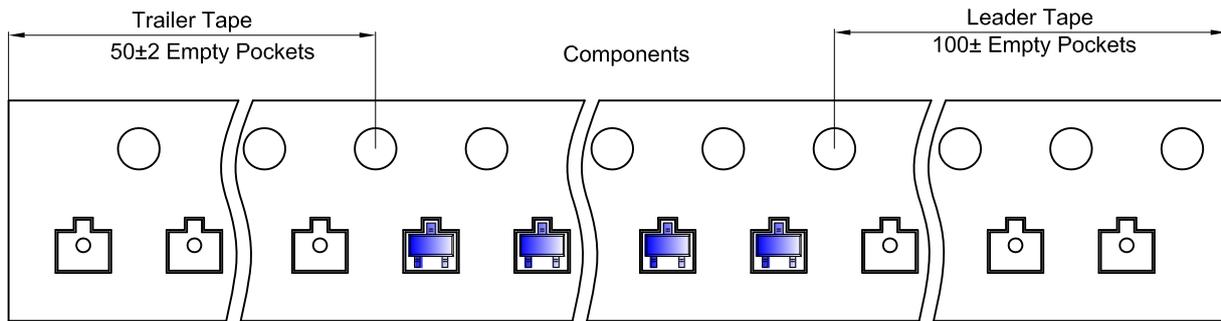
### Packaging Description:

SOT-523 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).

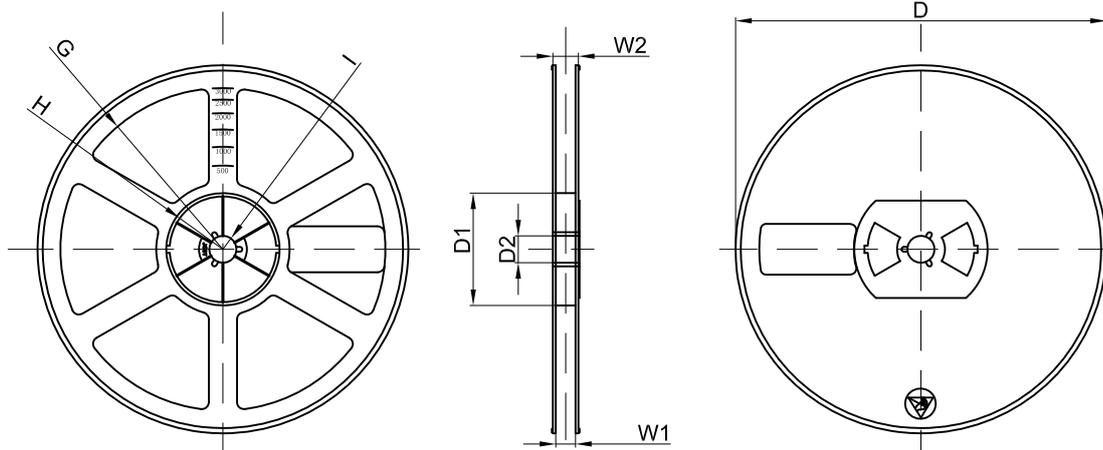
Dimensions are in millimeter

Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-523	1.85	1.85	0.875	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

## SOT-523 Tape Leader and Trailer



## SOT-523 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	