

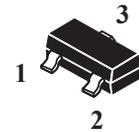
### Surface Mount Switching Diode

**(Pb)** Lead(Pb)-Free

**Features:**

- \*High Speed  $\leq 4\text{ns}$
- \*Low Rever Leakage Current
- \*Small Outline Surface Mount SOT-23 Package

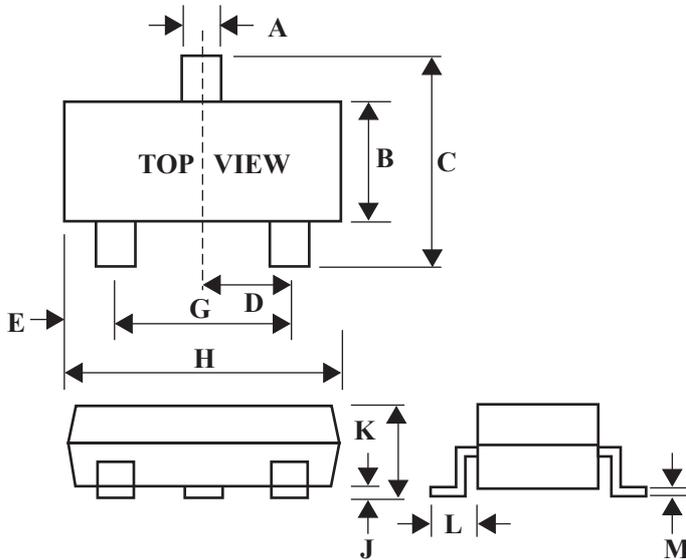
**SWITCHING DIODE**  
**200mAMPERS**  
**100VOLTS**



**SOT-23**

### SOT-23 Outline Dimensions

Unit:mm



Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25

## Maximum Ratings

Rating	Symbol	Value	Unit
Reverse Voltage	VR	100	Vdc
Forward Current	IF	200	mAdc
Non-Repetitive Peak Forward Surge Current @t=1.0us	IFSM	2.0	Adc
Forward Surge Current @t=1.0s		1.0	

## Thermal Characteristics

Characteristics	Symbol	Max	Unit
Total Device Dissipation FR-5 Board TA=25°C	PD	500	mW
Thermal Resistance, Junction to Ambient	RθJA	556	°C/W
Junction and Storage Temperature	TJ, Tstg	-55 to + 150	°C

## Electrical Characteristics (TA=25°C Unless Otherwise note)

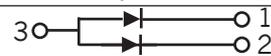
Characteristics	Symbol	Min	Max	Unit
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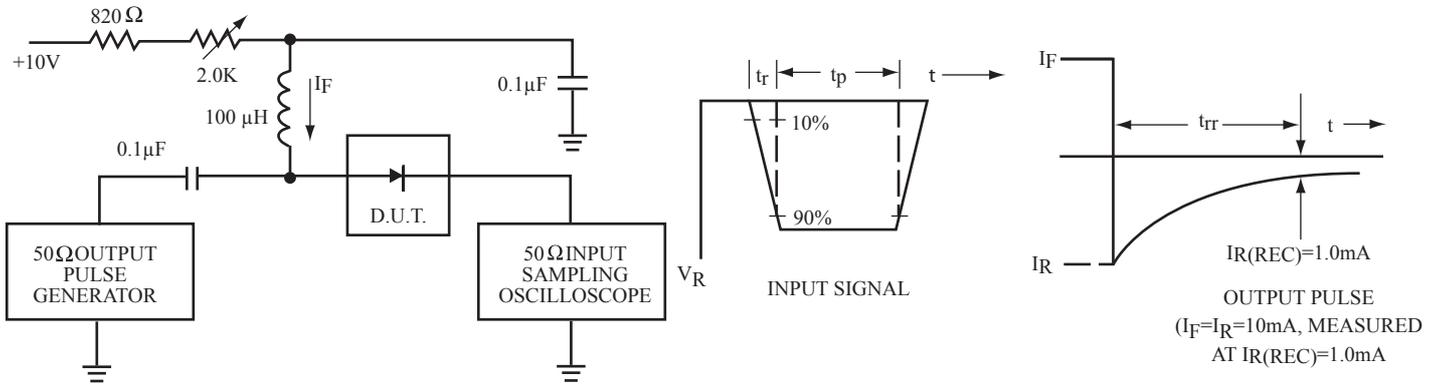
## Off Characteristics

Reverse Breakdown Voltage (IR=100μAdc)	V(BR)	100	-	Vcc
Forward Voltage(IF=10mAdc)	VF	-	1000	mVdc
Reverse Voltage Leakage Current (VR=20Vdc) (VR=75Vdc)	IR	- -	0.025 5.0	μAdc
Diode Capacitance (VR=0, f=1.0MHz)	CT	-	4.0	Pf
Reverse Recover Time (IF=IR=10mAdc)	trr	-	4.0	ns

1. FR-5=1.0x0.75x0.062 in    2. Alumina=0.4x0.3x0.024 in. 99.5% alumina.

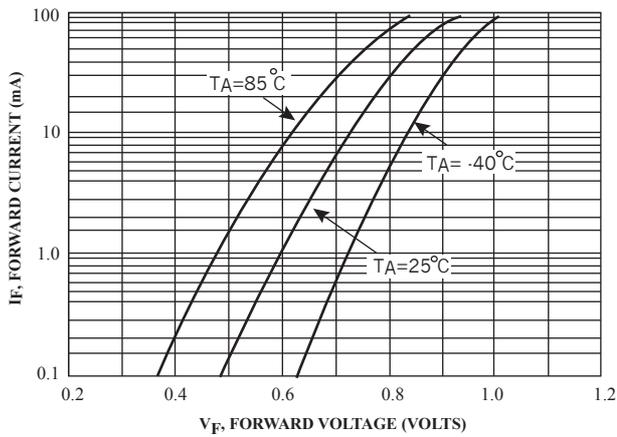
## Device Marking

Item	Marking	Equivalent Circuit Diagram
MMBD4148C	A4	
MMBD4148A	A1	
MMBD4148S	A7	

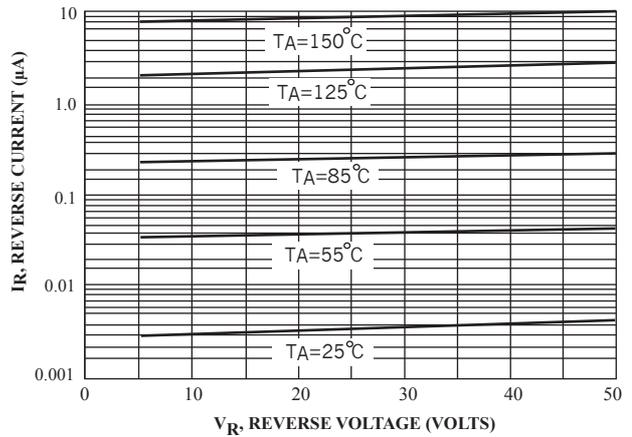


- Notes: 1. A 2.0 kΩ variable resistor for a Forward Current ( $I_F$ ) of 10 mA  
 2. Input pules is adjusted so  $I_R(\text{peak})$  is equal to 10 mA  
 3.  $t_p \gg t_{rr}$

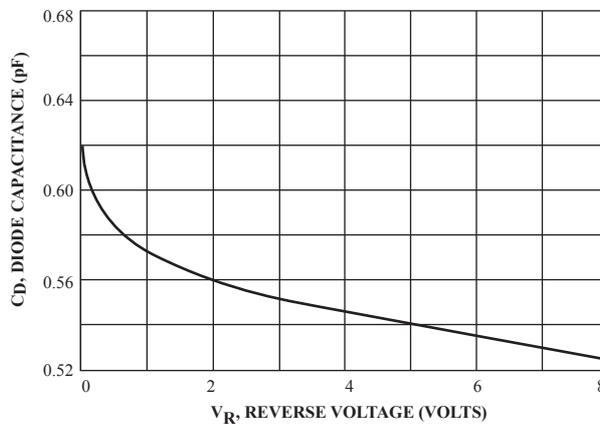
**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**



**Figure 4. Capacitance**