

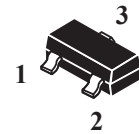
Surface Mount Switching Diode

 Lead(Pb)-Free

Features:

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

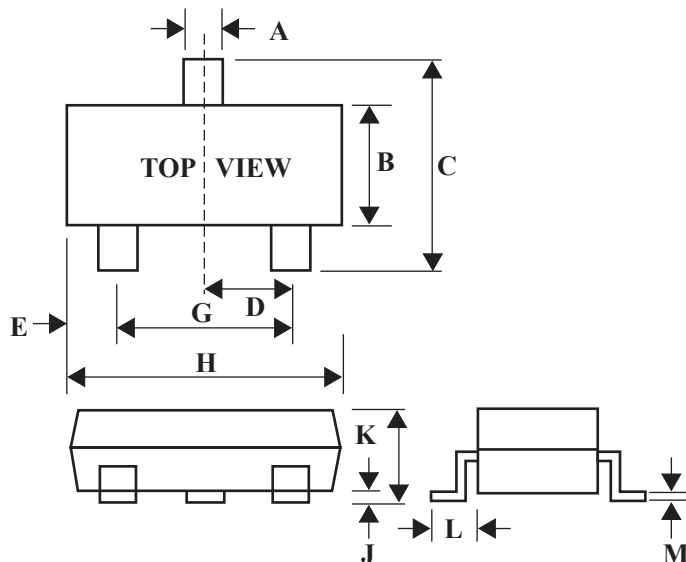
SWITCHING DIODE
200mAMPERS
100VOLTS



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
Peak Forward Surge Current	IFM(Surge)	500	mAdc

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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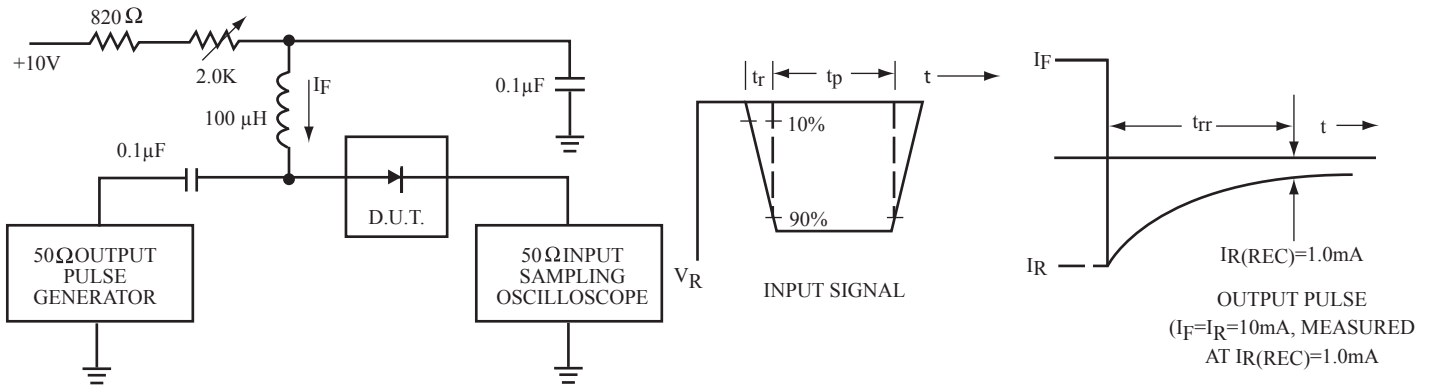
Off Characteristics

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 Circuitdiagram
MMBD4148	5D	



- Notes: 1. A 2.0 kΩ variable resistor for a Forward Current (I_F) of 10 mA
 2. Input pulses 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

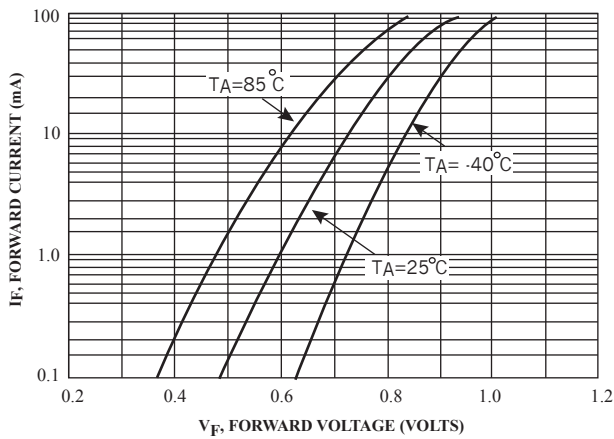


Figure 2. Forward Voltage

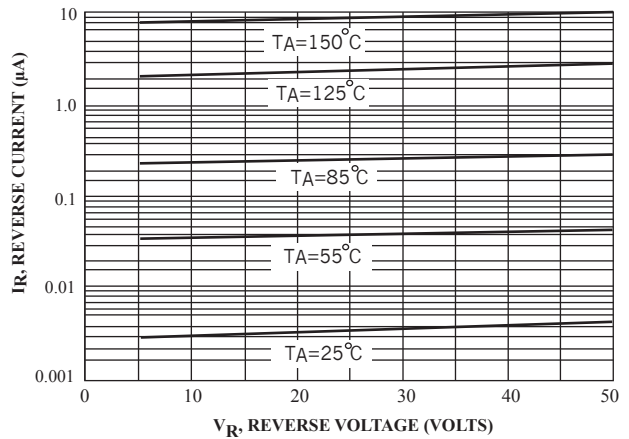


Figure 3. Leakage Current

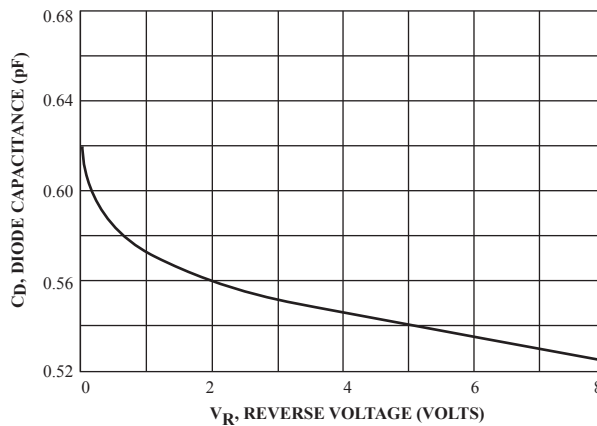


Figure 4. Capacitance