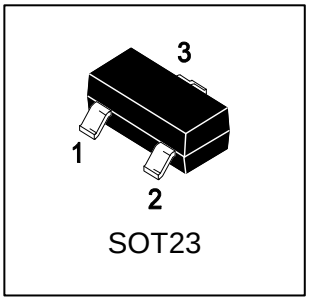
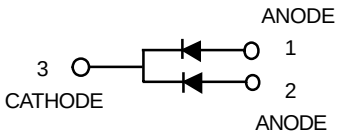
Monolithic Dual Switching Diode



1. FEATURES

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



2. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
MMBD6100	5BM	3000/Tape&Reel

3. MAXIMUM RATINGS(Ta = 25ºC)

Parameter	Symbol	Limits	Unit
Reverse Voltage	VR	70	V
Forward Current	IF	200	mA
Peak Forward Surge Current	IFM(surge)	500	mA

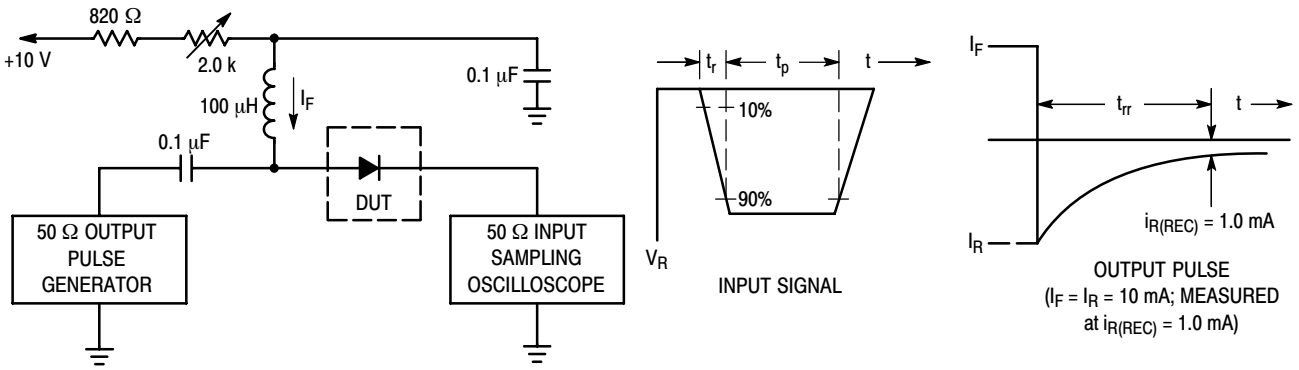
4. THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Unit
Total Device Dissipation FR– 5 Board (Note 1) TA = 25°C Derate above 25°C	PD	 225 1.8	 mW mW/℃
Thermal Resistance, Junction to Ambient	RθJA	556	℃/W
Total Device Dissipation Alumina Substrate(Note 2) TA = 25°C Derate above 25°C	PD	 300 2.4	 mW mW/℃
Thermal Resistance, Junction to Ambient	RθJA	417	℃/W
Junction and Storage Temperature	TJ , Tstg	-55~+150	℃

1. FR–5 = 1.0 x 0.75 x 0.062 in.
2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

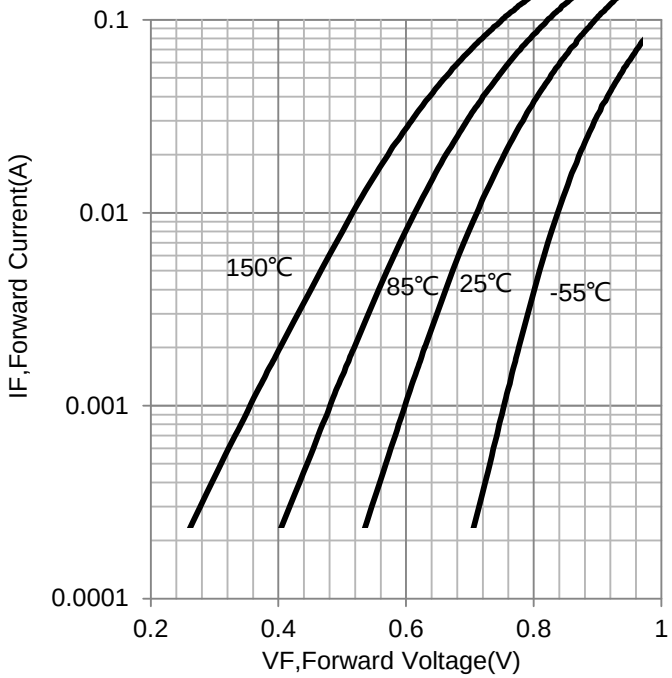
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage (I(BR) = 100 µA)	V(BR)	70	-	-	V
Reverse Voltage Leakage Current (VR = 50 V)	IR	-	-	0.1	µA
Forward Voltage (IF = 1.0 mA) (IF = 100 mA)	VF	0.55 0.8	- -	0.7 1.1	V
Reverse Recovery Time (IF=IR =10mA,IR(REC) =1.0mA)(Figure 1)	trr	-	-	4	nS
Capacitance(VR =0V)	C	-	-	2.5	pF



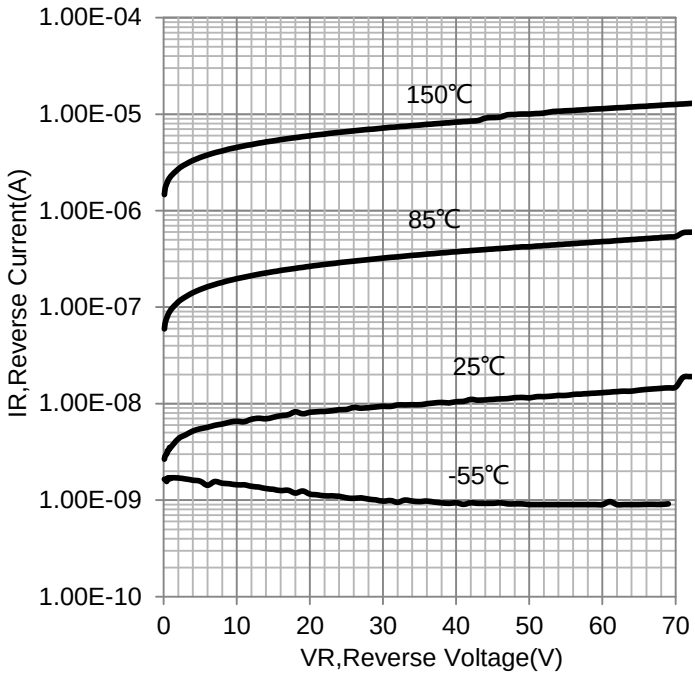
Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10 mA.
3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

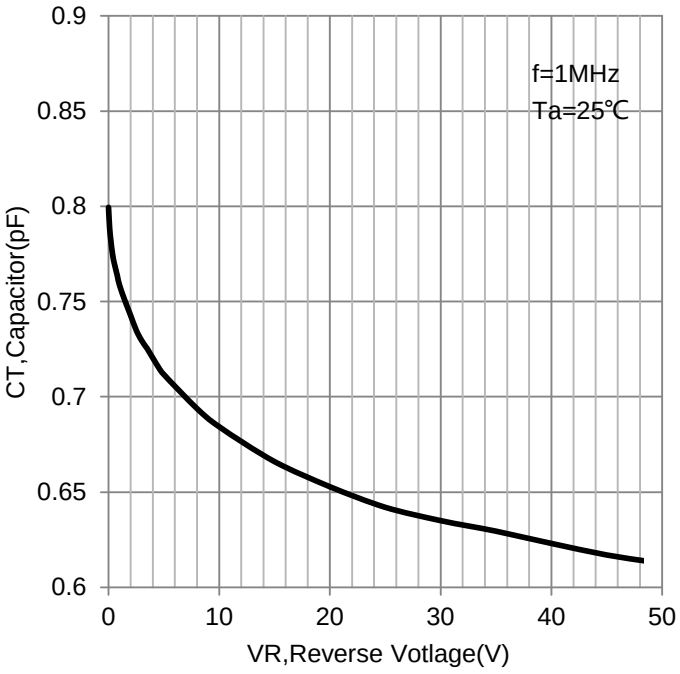
6.ELECTRICAL CHARACTERISTICS CURVES



IF vs. VF



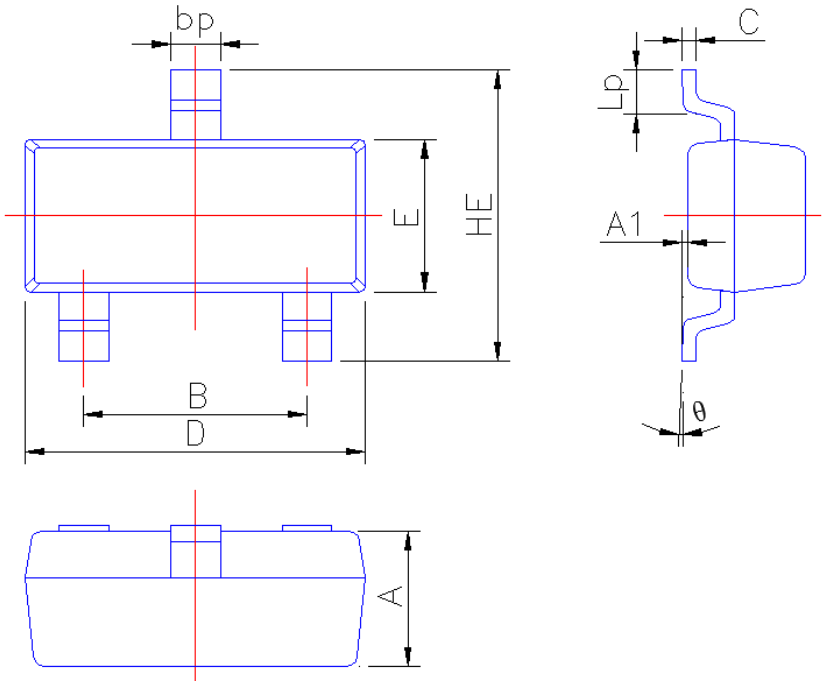
IR vs. VR



CT vs. VR

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-23**



Symbol	Dimension in Millimeters	
	Min	Max
A	0.90	1.10
A1	0.013	0.100
B	1.80	2.00
bp	0.35	0.50
C	0.09	0.150
D	2.80	3.00
E	1.20	1.40
HE	2.20	2.80
Lp	0.20	0.50
θ	0°	5°