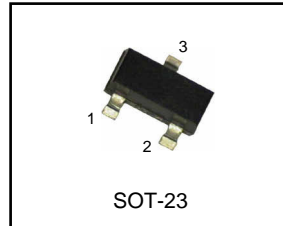


Switching Diode

MMBD6050



MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|----------------------------|--------------|-------|------|
| Reverse Voltage | VR | 70 | Vdc |
| Peak Forward Current | IF | 200 | mAdc |
| Peak Forward Surge Current | IFM(surge) | 500 | mAdc |

THERMAL CHARACTERISTICS

| Characteristic | Symbol | Max. | Unit |
|---|---------------|-------------|---------------|
| Total Device Dissipation FR-5 Board ⁽¹⁾ TA=25°C Derate above 25°C | PD | 225 1.8 | mW mW / °C |
| Thermal Resistance, Junction to Ambient | R θ JA | 556 | °C / W |
| Total Device Dissipation Alumina Substrate, ⁽²⁾ TA=25°C Derate above 25°C | PD | 300 2.4 | mW mW / °C |
| Thermal Resistance, Junction to Ambient | R θ JA | 417 | °C / W |
| Junction and Storage Temperature | TJ,TSTG | -55 to +150 | °C |

DEVICE MARKING

MMBD6050=5A

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

| Characteristic | Symbol | Min. | Max. | Unit |
|----------------|--------|------|------|------|
|----------------|--------|------|------|------|

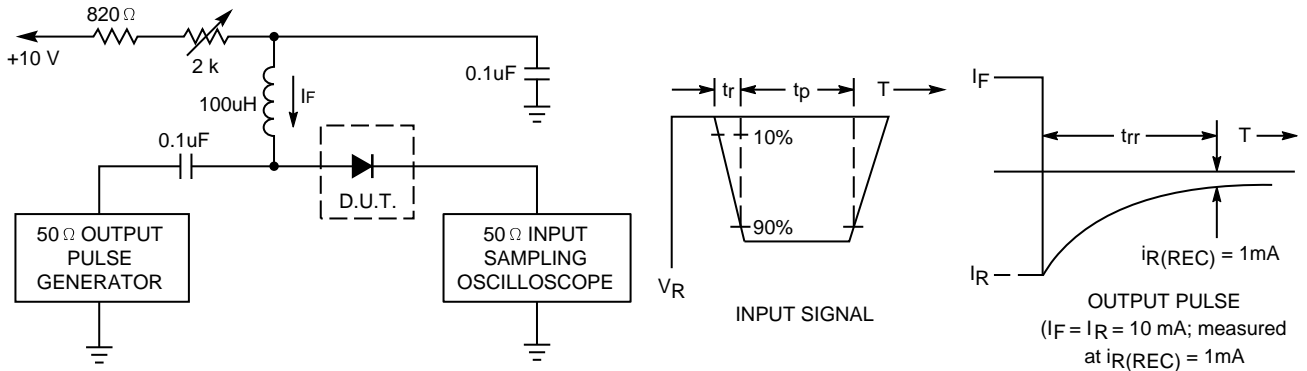
OFF CHARACTERISTICS

| | | | | |
|---|-------|------------|-------------|------|
| Reverse Breakdown Voltage (IBR=100uAdc) | V(BR) | 70 | - | Vdc |
| Forward Voltage (IF=1.0 mAdc) (IF=100 mAdc) | VF | 550 850 | 700 1100 | mVdc |
| Reverse Voltage Leakage Current (VR=50 Vdc) | IR | - - | 0.1 | uAdc |
| Diode Capacitance (VR=0, f=1.0MHZ) | CJ | - | 2.5 | pF |
| Reverse Recovery Time (IF=IR=10 mAdc, IR(REC)=1.0mAdc) | trr | - | 4.0 | nS |

(1) FR-5=1.0 x 0.75 x 0.062in.

(2) Alumina=0.4 x 0.3 x 0.024in. 99.5% alumina.

FIGURE 1. RECOVERY TIME EQUIVALENT TEST CIRCUIT



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

FIGURE 2. FORWARD VOLTAGE

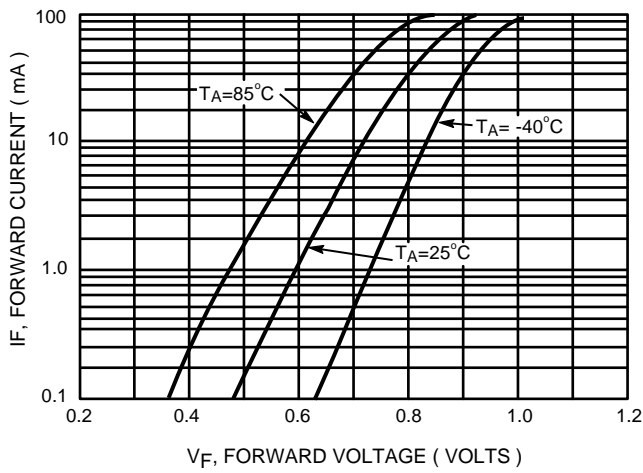


FIGURE 3. LEAKAGE CURRENT

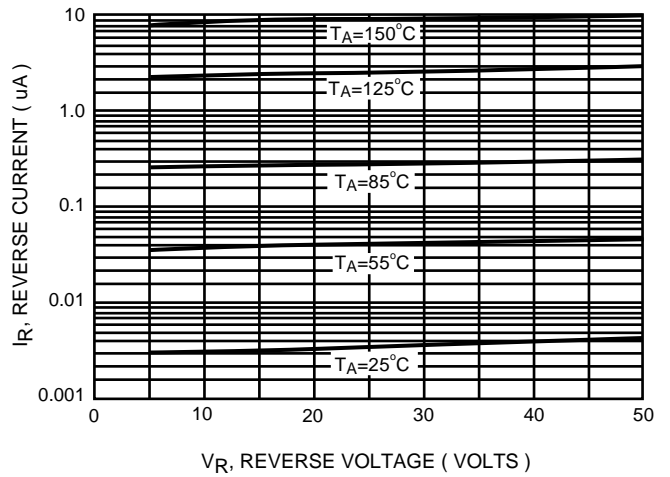


FIGURE 4. CAPACITANCE

