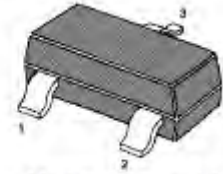
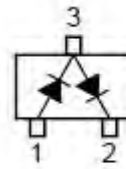




## MMBD1203 SWITCHING DIODES

### FEATURES

- Fast Switching Speed
- For General Purpose Switching Applications
- High Conductance



Marking Code: A7  
SOT-23 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

| Parameter  | Symbol    | Value           | Unit             |
|--|-----------|-----------------|------------------|
| Repetitive Peak Reverse Voltage                  | $V_{RRM}$ | 85              | V                |
| Continuous Reverse Voltage                       | $V_R$     | 75              | V                |
| Continuous Forward Current (Double Diode Loaded) | $I_F$     | 125             | mA               |
| Continuous Forward Current (Single Diode Loaded) | $I_F$     | 215             | mA               |
| Repetitive Peak Forward Current                  | $I_{FRM}$ | 450             | mA               |
| Non-repetitive Peak Forward Surge Current        | $I_{FSM}$ | 0.5<br>1<br>4.5 | A                |
| Power Dissipation                                | $P_{tot}$ | 350             | mW               |
| Junction Temperature                             | $T_j$     | 150             | $^\circ\text{C}$ |
| Storage Temperature Range                        | $T_{stg}$ | - 65 to + 150   | $^\circ\text{C}$ |

### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

| Parameter  | Symbol   | Max.                        | Unit  |
|--|----------|-----------------------------|---|
| Forward Voltage at $I_F = 1\text{ mA}$<br>at $I_F = 10\text{ mA}$<br>at $I_F = 50\text{ mA}$<br>at $I_F = 150\text{ mA}$   | $V_F$    | 0.715<br>0.855<br>1<br>1.25 | V   |
| Reverse Current at $V_R = 25\text{ V}$<br>at $V_R = 75\text{ V}$<br>at $V_R = 25\text{ V}, T_j = 150\text{ }^\circ\text{C}$<br>at $V_R = 75\text{ V}, T_j = 150\text{ }^\circ\text{C}$ | $I_R$    | 30<br>1<br>30<br>50         | nA<br>$\mu\text{A}$<br>$\mu\text{A}$<br>$\mu\text{A}$ |
| Diode Capacitance<br>at $V_R = 0, f = 1\text{ MHz}$  | $C_d$    | 1.5                         | pF  |
| Reverse Recovery Time<br>at $I_F = I_R = 10\text{ mA}, I_R = 1\text{ mA}, R_L = 100\ \Omega$   | $t_{rr}$ | 4                           | ns  |



## Typical Characteristics

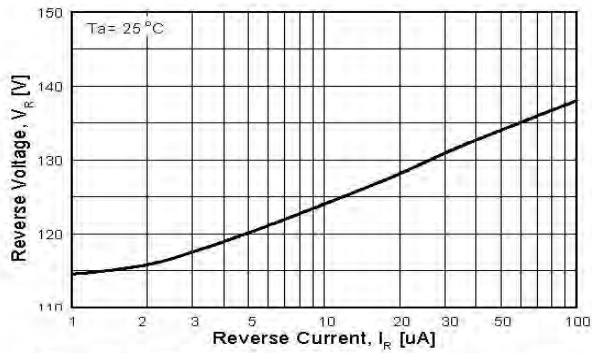


Figure 1. Reverse Voltage vs Reverse Current  
BV - 1.0 to 100uA

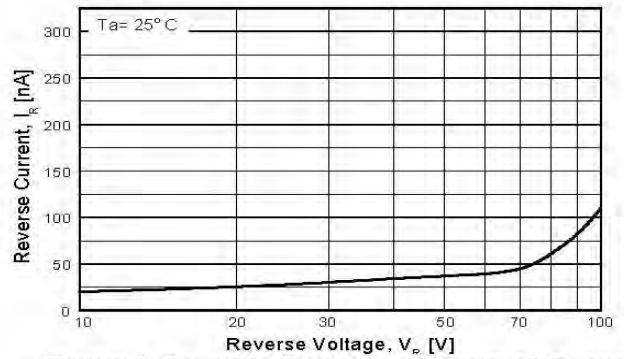


Figure 2. Reverse Current vs Reverse Voltage  
IR - 10 to 100 V

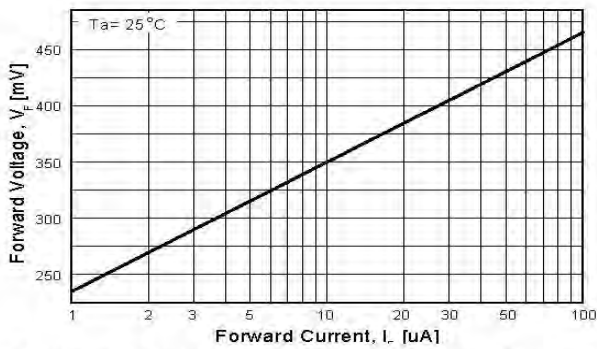


Figure 3. Forward Voltage vs Forward Current  
VF - 1.0 to 100 uA

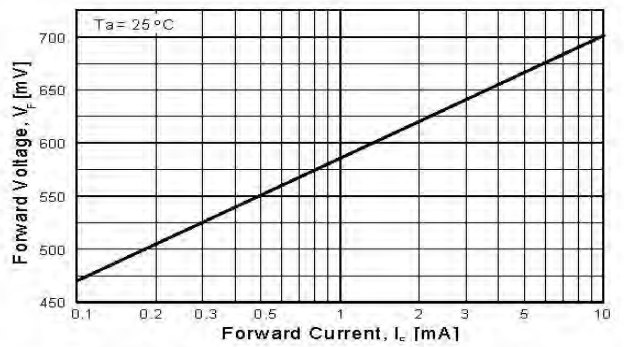


Figure 4. Forward Voltage vs Forward Current  
VF - 0.1 to 10 mA

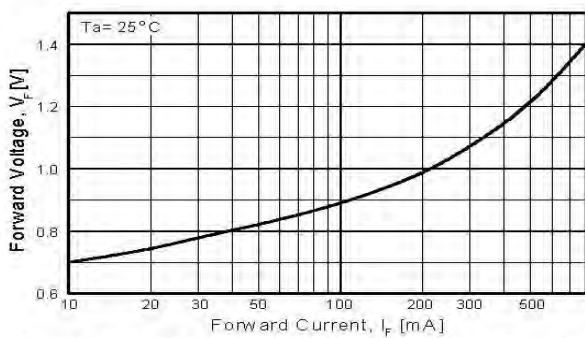


Figure 5. Forward Voltage vs Forward Current  
VF - 10 - 800 mA

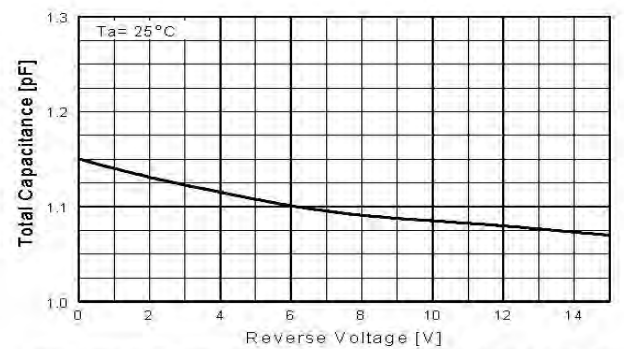


Figure 6. Total Capacitance vs Reverse Voltage

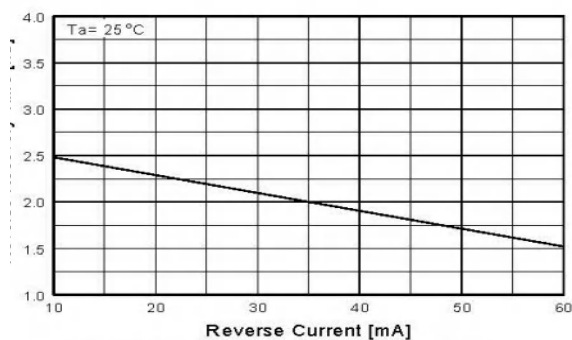


Figure 7. Reverse Recovery Time  
vs Reverse Current  
TRR - IR 10 mA vs 60 mA

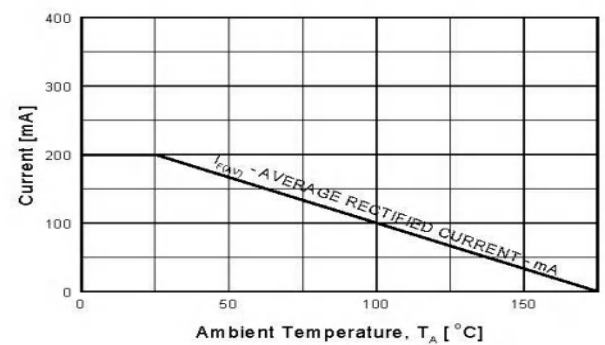


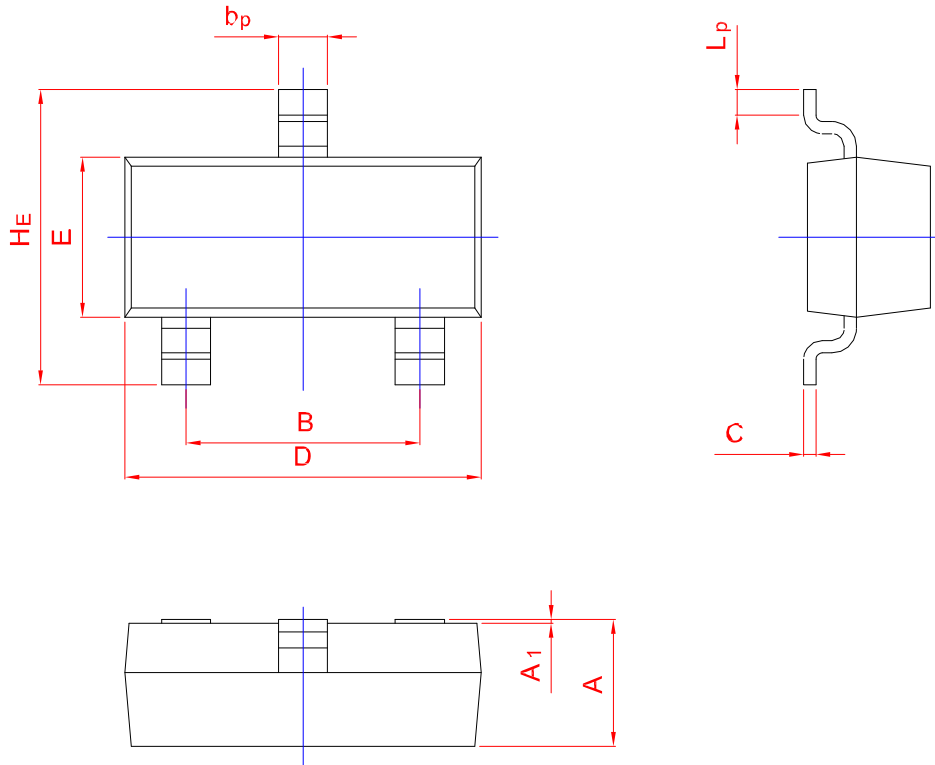
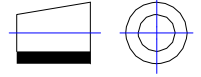
Figure 8. Average Rectified Current ( $I_{F(AV)}$ )  
versus Ambient Temperature ( $T_A$ )



## PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



| UNIT | A    | B    | bp   | C    | D    | E    | HE   | A1    | Lp   |
|------|------|------|------|------|------|------|------|-------|------|
| mm   | 1.40 | 2.04 | 0.50 | 0.19 | 3.10 | 1.65 | 3.00 | 0.100 | 0.50 |
|      | 0.95 | 1.78 | 0.35 | 0.08 | 2.70 | 1.20 | 2.20 | 0.013 | 0.20 |