



# BAS16/MMBD4148/MMBD914

## Surface Mount Switching Diode



Voltage Range  
75 Volts  
350m Watts Power Dissipation

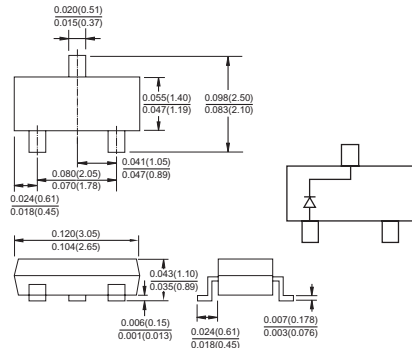
### Features

- ✧ Fast switching speed
- ✧ Surface mount package ideally suited for automatic insertion
- ✧ For general purpose switching applications
- ✧ High conductance

### Mechanical Data

- ✧ Case: SOT-23, Molded plastic
- ✧ Terminals: Solderable per MII-STD-202, Method 208
- ✧ Polarity: See diagram
- ✧ Marking: KA6, KA2, K5D
- ✧ Weight: 0.008 gram (approx.)

### SOT-23



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

#### Maximum Ratings

| Type Number                                                               | Symbol          | Value       | Units |
|---------------------------------------------------------------------------|-----------------|-------------|-------|
| Non-Repetitive Peak Reverse Voltage                                       | $V_{RM}$        | 100         | V     |
| Peak Repetitive Reverse Voltage                                           | $V_{RRM}$       | 75          | V     |
| Working Peak Reverse Voltage                                              | $V_{RWM}$       |             |       |
| DC Blocking Voltage                                                       | $V_R$           |             |       |
| RMS Reverse Voltage                                                       | $V_{R(RMS)}$    | 53          | V     |
| Forward Continuous Current                                                | $I_{FM}$        | 300         | mA    |
| Average Rectifier Output Current                                          | $I_o$           | 200         | mA    |
| Non-Repetitive Peak Forward Surge Current<br>@ $t=1.0\mu s$<br>@ $t=1.0S$ | $I_{FSM}$       | 2.0<br>1.0  | A     |
| Power Dissipation (Note 1)                                                | $P_d$           | 350         | mW    |
| Thermal Resistance Junction to Ambient Air                                | $R_{\theta JA}$ | 357         | °C/W  |
| Operating and Storage Temperature Range                                   | $T_J, T_{STG}$  | -65 to +150 | °C    |

#### Electrical Characteristics

| Type Number                                                                                   | Symbol     | Min | Max                           | Units         |
|-----------------------------------------------------------------------------------------------|------------|-----|-------------------------------|---------------|
| Reverse Breakdown Voltage (Note 3) $I_R=100\mu A$                                             | $V_{(BR)}$ | 75  |                               | V             |
| Forward Voltage<br>$I_F=1.0mA$<br>$I_F=10mA$<br>$I_F=50mA$<br>$I_F=150mA$                     | $V_F$      | -   | 0.715<br>0.855<br>1.0<br>1.25 | V             |
| Peak Reverse Current<br>$V_R=75V, T_J=150^\circ C$<br>$V_R=25V, T_J=150^\circ C$<br>$V_R=20V$ | $I_R$      | -   | 1.0<br>50<br>30<br>25         | $\mu A$<br>nA |
| Junction Capacitance $V_R=0, f=1.0MHz$                                                        | $C_j$      | -   | 2.0                           | pF            |
| Reverse Recovery Time (Note 2)                                                                | $t_{rr}$   | -   | 4.0                           | nS            |

Notes: 1. Device Mounted on Glass Epoxy PCB 1.6"x1.6"x0.06", Mounting pad for the Cathode Lead Min. 0.93 inches.

2. Reverse Recovery Test Conditions:  $I_F=I_R=10mA, I_{rr}=0.1 \times I_R, R_L=100\Omega$ .

# RATINGS AND CHARACTERISTIC CURVES (BAS16 / MMBD4148 / MMBD914)

FIG.1- POWER DERATING CURVE

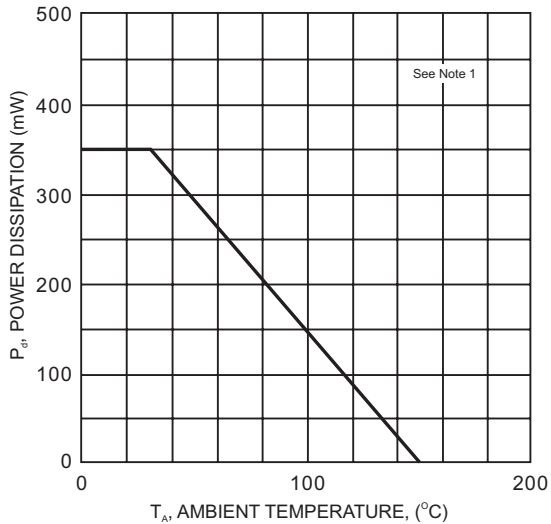


FIG.2- TYPICAL FWD CHARACTERISTICS

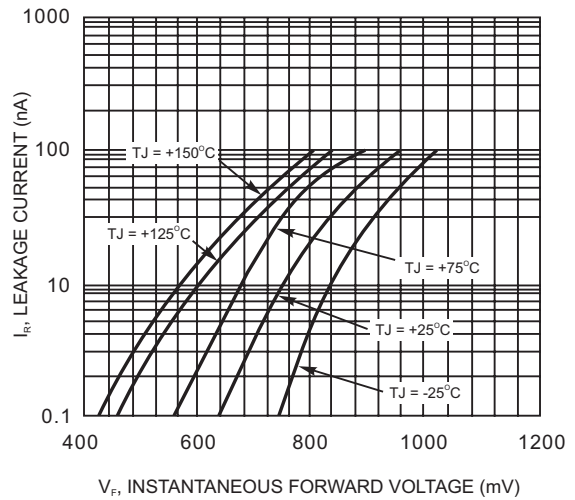


FIG.3- TYPICAL REVERSE CHARACTERISTICS

