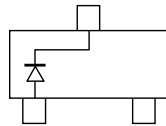
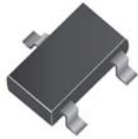


## Small Signal Diode



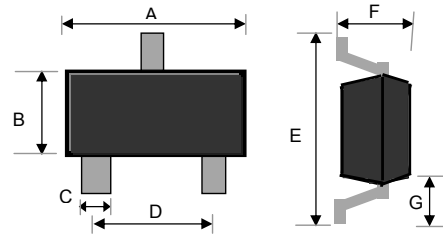
### Features

- ✧ Low power loss, high current capability, low  $V_f$
- ✧ Surface device type mounting
- ✧ Moisture sensitivity level 1
- ✧ Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ✧ Pb free version and RoHS compliant
- ✧ Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

### Mechanical Data

- ✧ Case : SOT- 23 small outline plastic package
- ✧ Terminal: Matte tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✧ High temperature soldering guaranteed: 260°C/10s
- ✧ Weight : 0.008gram (approximately)

### SOT-23



| Dimensions | Unit (mm) |      | Unit (inch) |       |
|------------|-----------|------|-------------|-------|
|            | Min       | Max  | Min         | Max   |
| A          | 1.50      | 1.70 | 0.059       | 0.067 |
| B          | 3.55      | 3.85 | 0.140       | 0.152 |
| C          | 0.45      | 0.65 | 0.018       | 0.026 |
| D          | 2.60      | 2.80 | 0.102       | 0.11  |
| E          | 1.05      | 1.25 | 0.041       | 0.049 |
| F          | 0.08      | 0.15 | 0.003       | 0.006 |
| G          | 0.02 REF  |      | 0.50 REF    |       |

### Ordering Information

| Part No.  | Package | Packing       |
|-----------|---------|---------------|
| BAS116 RF | SOT-23  | 3Kpcs/7" Reel |

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

#### Maximum Ratings

| Type Number                                              | Symbol         | Value        | Units |
|----------------------------------------------------------|----------------|--------------|-------|
| Power Dissipation                                        | $P_D$          | 225          | mW    |
| Repetitive Peak Reverse Voltage                          | $V_{RRM}$      | 75           | V     |
| Mean Forward Current                                     | $I_o$          | 150          | mA    |
| Non-Repetitive Peak Forward Surge Current @ $t = 0.001s$ | $I_{FSM}$      | 2            | A     |
| Thermal Resistance (Junction to Ambient) (Note 1)        | $R\theta_{JA}$ | 375          | °C/W  |
| Junction and Storage Temperature Range                   | $T_J, T_{STG}$ | -65 to + 150 | °C    |

#### Electrical Characteristics

| Type Number                    | Symbol                | Min      | Max   | Units   |
|--------------------------------|-----------------------|----------|-------|---------|
| Reverse Breakdown Voltage      | $V_{(BR)}$            | 75       | -     | V       |
| Forward Voltage                | $I_R = 100\mu A$      | -        | 0.715 | V       |
|                                | $I_F = 1.0mA$         |          | 0.855 |         |
|                                | $I_F = 10mA$          |          | 1.0   |         |
|                                | $I_F = 50mA$          |          | 1.25  |         |
| Reverse Leakage Current        | $V_R = 75V$           | $I_R$    | 1     | $\mu A$ |
| Junction Capacitance           | $V_R = 0, f = 1.0MHz$ | $C_J$    | 2.0   | pF      |
| Reverse Recovery Time (Note 2) |                       | $T_{rr}$ | 6.0   | ns      |

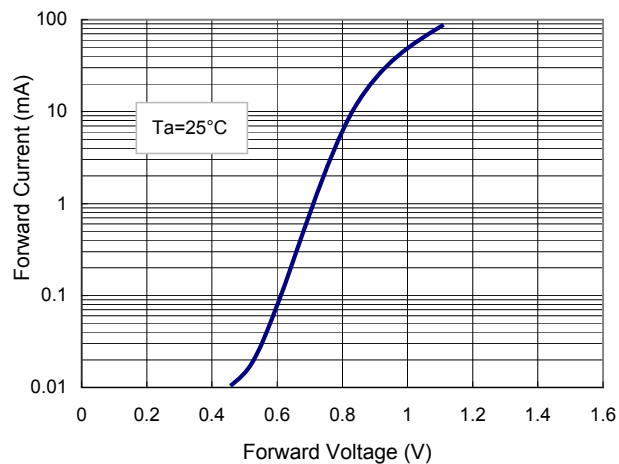
Notes:1. Valid provided that electrodes are kept at ambient temperature

Notes:2. Reverse Recovery Test Conditions:  $I_F = 10mA$ ,  $I_R = 10mA$ ,  $R_L = 100\Omega$ ,  $I_{RR} = 1mA$

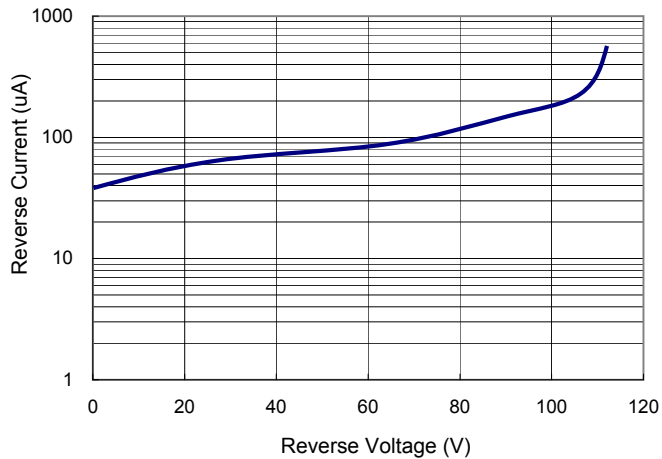
**Small Signal Diode**

**Rating and Sharacteristic Curves**

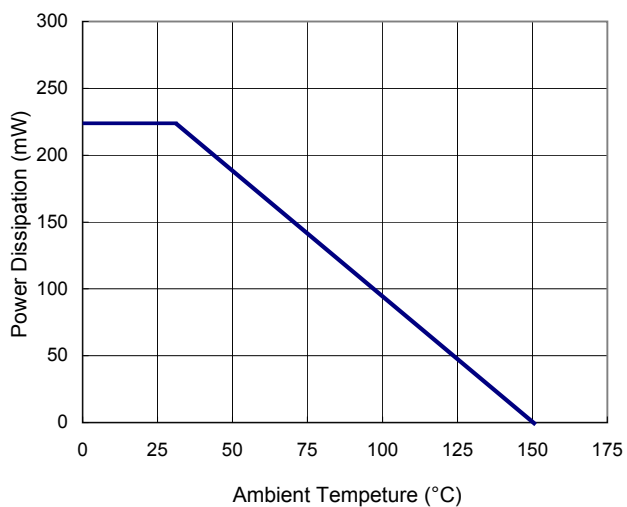
**FIG 1 Typical Forward Characteristics**



**FIG 2 Reverse Current vs Reverse**



**FIG 3 Admissible Power Dissipation Curve**



**FIG 4 Typical Junction Capacitance**

