

## Features

- Low Current Leakage
- Low Cost
- Small Outline Surface Mount Package
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings

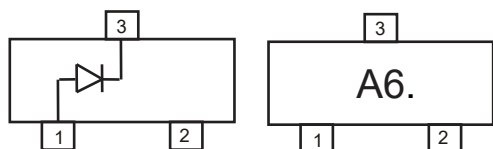
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance(Note2): 357°C/W Junction to Ambient

| MCC Part Number | Repetitive Peak Reverse Voltage $V_{RRM}$ | RMS Reverse Voltage $V_{R(RMS)}$ | Reverse Voltage $V_R$ |
|-----------------|---|----------------------------------|-----------------------|
| BAS16           | 100V                                      | 70V                              | 100V                  |

| Parameter                                      | Symbol    | Value    |
|--|-----------|----------|
| Peak Reverse Voltage                           | $V_{RM}$  | 100V     |
| Working Peak Reverse Voltage                   | $V_{RWM}$ | 100V     |
| Peak Forward Current                           | $I_F$     | 215mA    |
| Peak Forward Surge Current (t=1s)<br>(t=0.1ms) | $I_{FSM}$ | 1A<br>4A |
| Power Dissipation                              | $P_D$     | 350mW    |

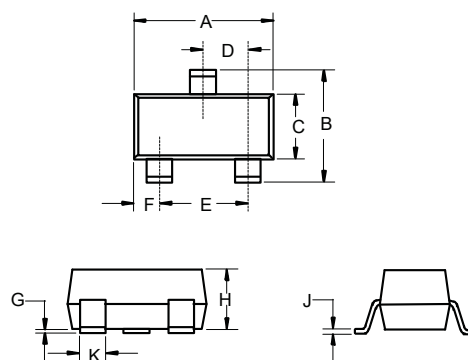
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.  
2. Part mounted on FR-4 board with recommended pad layout.

## Internal Structure and Marking Code



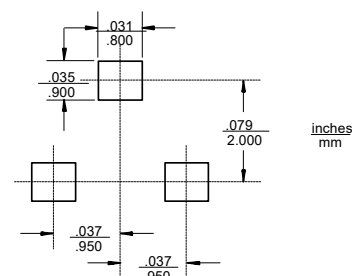
# 350mW 100Volt Switching Diode

## SOT-23



| DIM | INCHES |        | MM    |       | NOTE |
|-----|--------|--------|-------|-------|------|
|     | MIN    | MAX    | MIN   | MAX   |      |
| A   | 0.110  | 0.120  | 2.80  | 3.04  |      |
| B   | 0.083  | 0.104  | 2.10  | 2.64  |      |
| C   | 0.047  | 0.055  | 1.20  | 1.40  |      |
| D   | 0.035  | 0.041  | 0.89  | 1.03  |      |
| E   | 0.070  | 0.081  | 1.78  | 2.05  |      |
| F   | 0.018  | 0.024  | 0.45  | 0.60  |      |
| G   | 0.0005 | 0.0039 | 0.01  | 0.10  |      |
| H   | 0.035  | 0.044  | 0.89  | 1.12  |      |
| J   | 0.003  | 0.007  | 0.085 | 0.180 |      |
| K   | 0.015  | 0.020  | 0.37  | 0.51  |      |

## Suggested Solder Pad Layout



**Electrical Characteristics @ 25°C (Unless Otherwise Specified)**

| Parameter                             | Symbol   | Conditions                                | Min. | Typ. | Max.  | Units   |
|---------------------------------------|----------|---|------|------|-------|---------|
| Breakdown Voltage                     | $V_{BR}$ | $I_R=100\mu A$                            | 100  |      |       | V       |
| Maximum Instantaneous Forward Voltage | $V_F$    | $I_{FM}=1mA$                              |      |      | 0.715 | V       |
|                                       |          | $I_{FM}=10mA$                             |      |      | 0.855 | V       |
|                                       |          | $I_{FM}=50mA$                             |      |      | 1     | V       |
|                                       |          | $I_{FM}=100mA$                            |      |      | 1.25  | V       |
| Maximum DC Reverse Current            | $I_R$    | $V_R=75V, T_J=25^\circ C$                 |      |      | 1     | $\mu A$ |
|                                       |          | $V_R=75V, T_J=150^\circ C$                |      |      | 50    | $\mu A$ |
| Junction Capacitance                  | $C_J$    | $V_R = 0V, f = 1MHz$                      |      | 2    |       | pF      |
| Reverse Recovery Time                 | $t_{rr}$ | $I_F=10mA,$<br>$V_R= 6.0V, R_L=100\Omega$ |      |      | 4     | ns      |

\* Pulse Test: Pulse Width 300  $\mu sec$ , Duty Cycle 2%

## Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

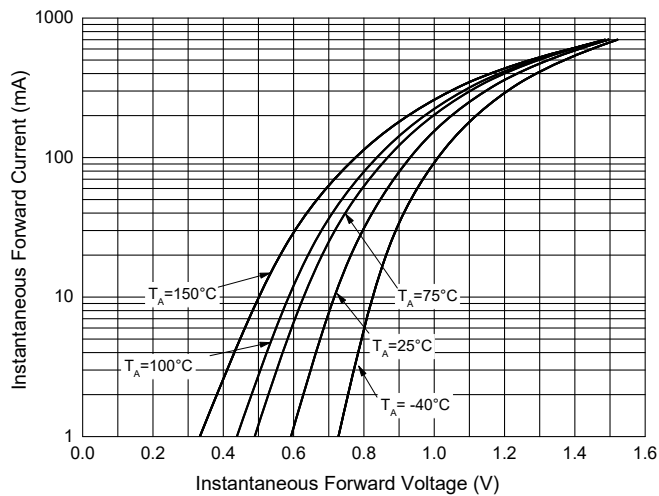


Fig. 2 - Typical Reverse Leakage Characteristics

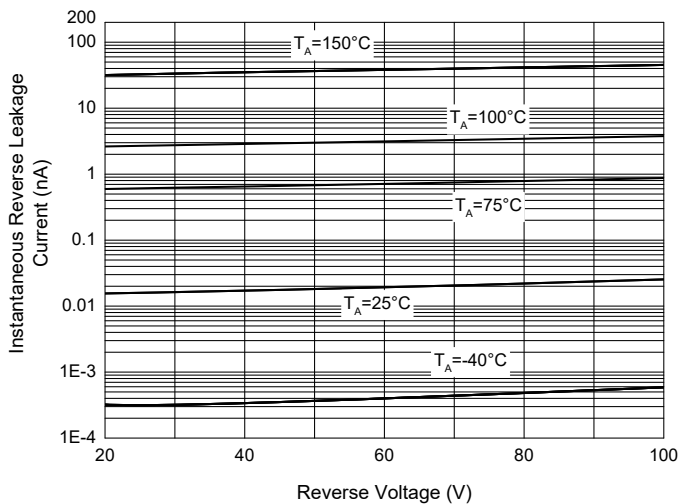


Fig. 3 - Capacitance Characteristics

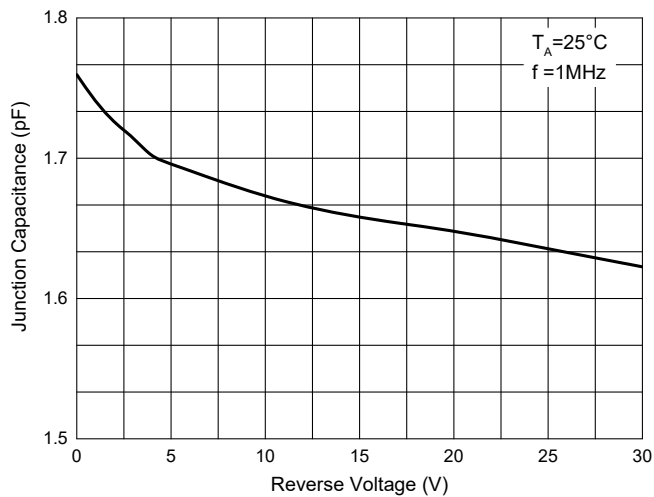
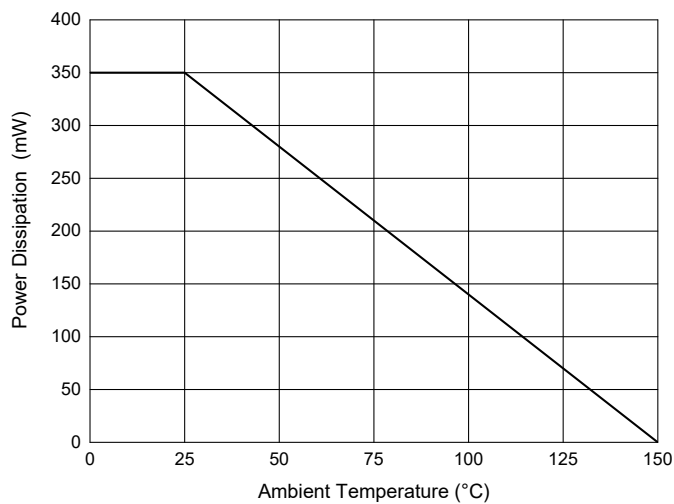


Fig. 4 - Power Derating Curve



## Ordering Information

| Device          | Packing                |
|-----------------|------------------------|
| Part Number-TP  | Tape&Reel: 3Kpcs/Reel  |
| Part Number-13P | Tape&Reel: 10Kpcs/Reel |

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