

## Features

- Halogen Free. "Green" Device (Note 1)
- AEC-Q101 Qualified
- Surface Mount Package Ideally Suited for Automatic Insertion
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings

- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Thermal Resistance: 312.5°C/W Junction to Ambient (Note 2)

| MCC Part Number | Repetitive Peak Reverse Voltage $V_{RRM}$ | RMS Reverse Voltage $V_{R(RMS)}$ | DC Blocking Voltage $V_R$ |
|-----------------|-------------------------------------------|----------------------------------|---------------------------|
| BAS316HE3       | 100V                                      | 71V                              | 100V                      |

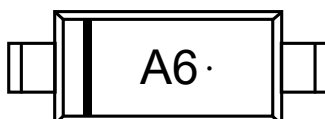
## Electrical Characteristics @ 25°C Unless Otherwise Specified

| Parameter                          | Symbol    | Value |
|------------------------------------|-----------|-------|
| Peak Forward Current               | $I_F$     | 250mA |
| Peak Forward Surge Current (t=1μs) | $I_{FSM}$ | 4A    |
| (t=1ms)                            |           | 1A    |
| (t=1s)                             |           | 0.5A  |
| Power Dissipation                  | $P_D$     | 400mW |

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

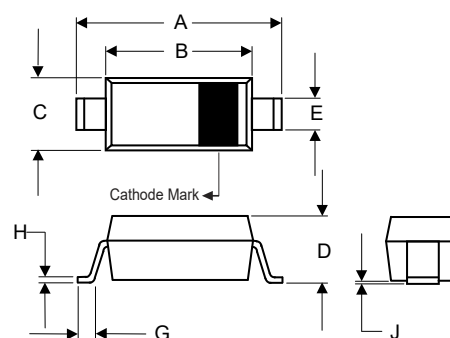
2. Valid Provided that Terminals are Kept at Ambient Temperature.

## Internal Structure and Marking Code



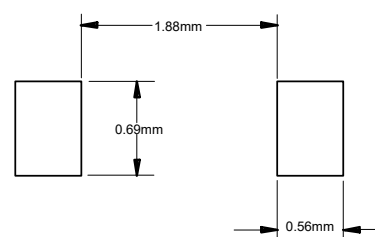
# 400mW High Speed Switching Diode

## SOD-323



| DIM | INCHES |       | MM    |      | NOTE |
|-----|--------|-------|-------|------|------|
|     | MIN    | MAX   | MIN   | MAX  |      |
| A   | 0.090  | 0.107 | 2.30  | 2.70 |      |
| B   | 0.063  | 0.071 | 1.60  | 1.80 |      |
| C   | 0.045  | 0.053 | 1.15  | 1.35 |      |
| D   | 0.031  | 0.045 | 0.80  | 1.15 |      |
| E   | 0.010  | 0.016 | 0.25  | 0.40 |      |
| G   | 0.004  | 0.018 | 0.10  | 0.45 |      |
| H   | 0.004  | 0.010 | 0.10  | 0.25 |      |
| J   | -----  | 0.006 | ----- | 0.15 |      |

## Suggested Solder Pad Layout



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

| Parameter                 | Symbol   | Conditions                                                | Min. | Typ. | Max.  | Units   |
|---------------------------|----------|-----------------------------------------------------------|------|------|-------|---------|
| Reverse Breakdown Voltage | $V_{BR}$ | $I_R=100\mu A$                                            | 100  |      |       | V       |
| Forward Voltage           | $V_F$    | $I_F=1mA$                                                 |      |      | 0.715 | V       |
|                           |          | $I_F=10mA$                                                |      |      | 0.855 | V       |
|                           |          | $I_F=50mA$                                                |      |      | 1     | V       |
|                           |          | $I_F=150mA$                                               |      |      | 1.25  | V       |
| Reverse Current           | $I_R$    | $V_R=20V$                                                 |      |      | 0.03  | $\mu A$ |
|                           |          | $V_R=75V$                                                 |      |      | 1     | $\mu A$ |
| Junction Capacitance      | $C_J$    | $V_R = 0V, f = 1MHz$                                      |      |      | 1.5   | pF      |
| Reverse Recovery Time     | $t_{rr}$ | $I_F=I_R=10mA,$<br>$I_{rr}=0.1 \times I_R, R_L=100\Omega$ |      |      | 4     | ns      |

## Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

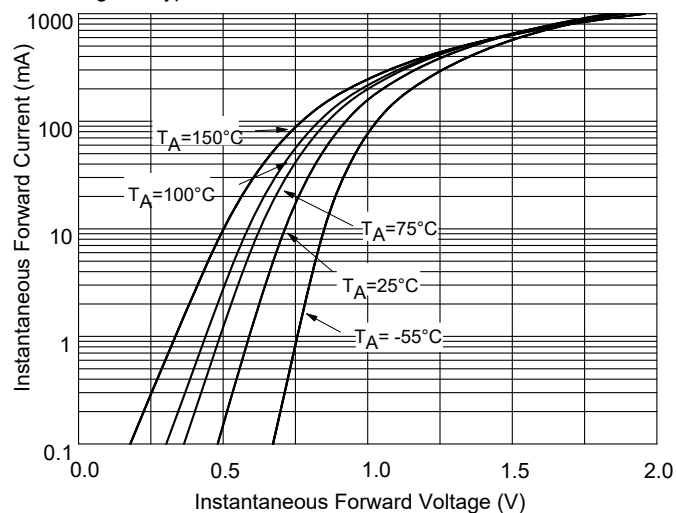


Fig. 2 - Typical Reverse Leakage Characteristics

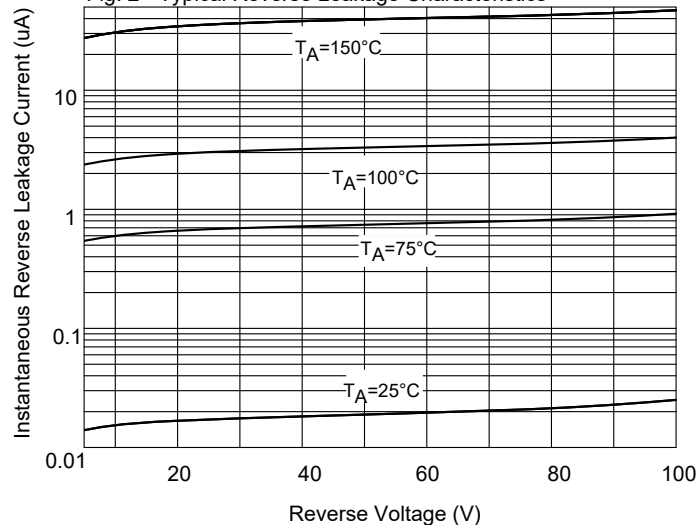


Fig. 3 - Capacitance Characteristics

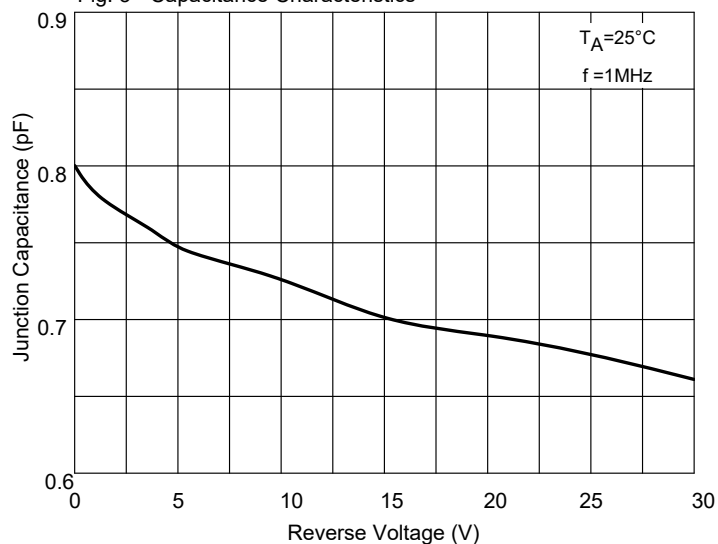
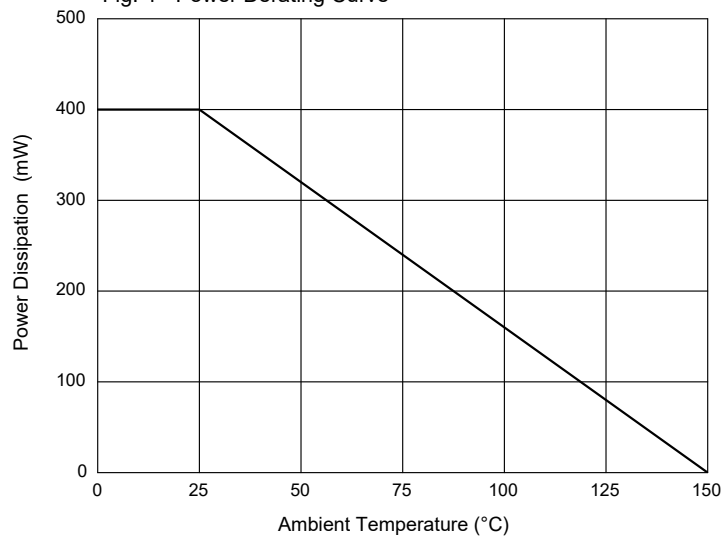


Fig. 4 - Power Derating Curve



## Ordering Information

| Device       | Packing               |
|--------------|-----------------------|
| BAS316HE3-TP | Tape&Reel: 3Kpcs/Reel |

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