



#### SURFACE MOUNT SWITCHING DIODES

Voltage 100 V Power 400 mW

#### **Features**

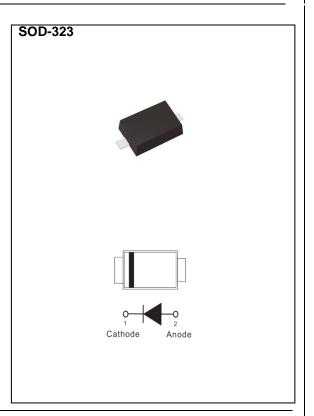
- Fast switching speed.
- Very low leakage current
- Low capacitance
- Surface mount package Ideally Suited for Automatic insertion
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

#### **Mechanical Data**

• Case: SOD-323 Package

• Terminals: Solderable per MIL-STD-750, Method 2026

• Approx. Weight: 0.00014 ounces, 0.0041 grams



## **Maximum Ratings and Thermal Characteristics** ( $T_A = 25^{\circ}C$ unless otherwise noted)

| PARAMETER   | SYMBOL        | LIMIT  | UNITS      |      |
|---|---------------|--|------------|------|
| Reverse Voltage   |               | V <sub>R</sub>                               | 100        | V    |
| Peak Reverse Voltage  |               | $V_{RM}$                                     | 100        | V    |
| Maximum Average Forward Current   |               | I <sub>F(AV)</sub>                           | 250        | mA   |
| Non-repetitive Peak forward current at T <sub>J</sub> (init)=25°C               | tp = 0.001 ms |  | 4          |      |
|   | tp = 1 ms     | I <sub>FSM</sub>                             | 1          | А    |
|   | tp = 1 s      |  | 0.5        |      |
| Repetitive peak forward current tp $\leq 0.5$ ms ; D $\leq 0.25$                |               | I <sub>FRM</sub>                             | 500        | mA   |
| Power Dissipation   |               | P <sub>D</sub> <sup>(1)</sup>                | 400        | mW   |
| Maximum Junction Capacitance  Measured at 1 MHZ And Applied $V_R = 0 \text{ V}$ |               | C <sub>J</sub>                               | 1.5        | pF   |
| Typical Thermal Resistance  |               | R <sub>θJA</sub> (2)<br>R <sub>θJC</sub> (1) | 500<br>200 | °C/W |
| Operating Junction Temperature Range  |               | TJ   | -55~150    | °C   |
| Storage Temperature Range   |               | T <sub>STG</sub>                             | -55~150    | °C   |





## **Electrical Characteristics** (T<sub>A</sub> = 25°C unless otherwise noted)

| PARAMETER                     | SYMBOL              | TEST CONDITION                                    | MIN. | TYP. | MAX.  | UNITS |
|-------------------------------|---------------------|---|------|------|-------|-------|
| Forward Voltage               | V <sub>F</sub>      | $I_F = 1 \text{ mA}, T_J = 25 ^{\circ}\text{C}$   | -    | ı    | 0.715 | V     |
|                               |                     | $I_F = 10 \text{ mA}, T_J = 25 ^{\circ}\text{C}$  | -    | ı    | 0.855 |       |
|                               |                     | $I_F = 50 \text{ mA}, T_J = 25 ^{\circ}\text{C}$  | -    | ı    | 1     |       |
|                               |                     | $I_F = 150 \text{ mA}, T_J = 25 ^{\circ}\text{C}$ | -    | -    | 1.25  |       |
| Reverse Current               | I <sub>R</sub>      | $V_R = 25 \text{ V}, T_J = 25 ^{\circ}\text{C}$   | -    | 1    | 0.03  | uA    |
|                               |                     | $V_R = 100 \text{ V}, T_J = 25 ^{\circ}\text{C}$  | -    | -    | 0.5   |       |
| Maximum Reverse Recovery Time | T <sub>RR</sub> (3) |   | -    | -    | 4     | ns    |

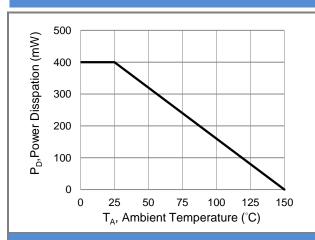
#### NOTES:

- 1. Mounted on aluminum plate.
- 2. Mounted on a FR4, single-sided copper, with 114 x 76mm PCB.
- 3. Test Condition :  $I_F\!=\!10mA$  to  $I_R\!=\!10mA,$  Recovery to 1mA,  $R_L\!=\!100\Omega$  .





#### **TYPICAL CHARACTERISTIC CURVES**



**Fig.1 Power Derating Curve** 

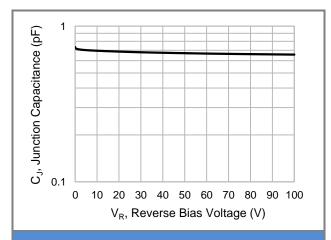


Fig.2 Typical Junction Capacitance

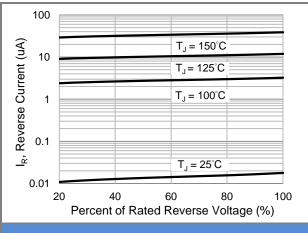


Fig.3 Typical Reverse Characteristics

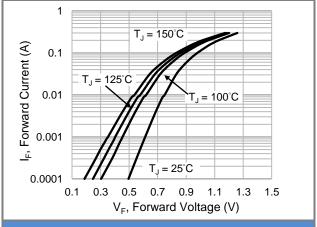


Fig.4 Typical Forward Characteristics

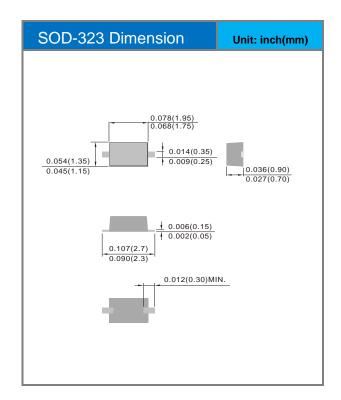


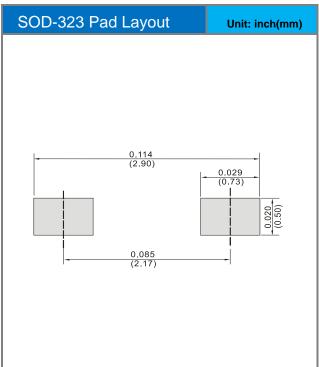


### **Part No Packing Code Version**

| Part No Packing Code | Package Type | Packing Type | Marking | Version      |
|----------------------|--------------|--------------|---------|--------------|
| BAS316_R1_00001      | SOD-323      | 5K / 7" Reel | A16     | Halogen free |

### **Packaging Information & Mounting Pad Layout**









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