



## Switching Diodes

### Features

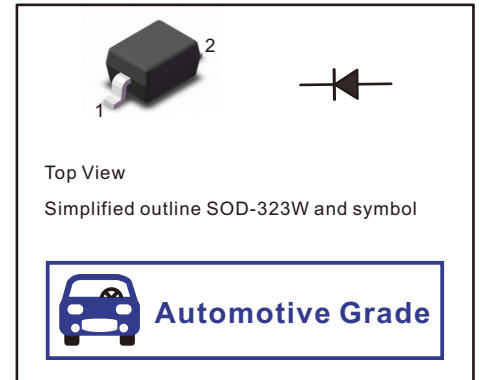
- Fast Switching Speed
- Low Forward Voltage
- Fast Reverse Recovery: Maximum of 4ns
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 )
- Halogen and Antimony “Green” Device (Note 2)
- Qualified to AEC-Q101 Standards for High Reliability
- PPAP Capable (Note 4)

### Mechanical Date

- Case: SOD-323W
- Case Material: Molded Plastic, “Green” Molding Compound;  
UL Flammability Classification Rating 94V-0

### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |



### Maximum Ratings(TA=+25℃ , unless other otherwise specified)

| Parameter                                 | Symbols         | BAS316   | Units |
|---|-----------------|----------|-------|
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$       | 100      | V     |
| Reverse Voltage                           | $V_R$           | 100      | V     |
| Average Rectified Forward Current         | $I_{F(AV)}$     | 250      | mA    |
| Non-reptitive Peak Forward Surge Current  | at 1s           | 0.5      | A     |
|   | at 1ms          | 1        |       |
|   | at 1us          | 4        |       |
| Total Power Dissipation                   | $P_{tot}$       | 400      | mW    |
| Typical Thermal Resistance <sup>(4)</sup> | $R_{\theta JA}$ | 500      | ℃/W   |
| Operating and Storage Temperature Range   | $T_J, T_{STG}$  | -65~+150 | ℃     |



**Electrical Characteristics**(TA=+25°C , unless other otherwise specified)

| Parameter                        |                   | Symbols     | BAS316 | Units |
|----------------------------------|-------------------|-------------|--------|-------|
| Reverse Breakdown voltage        | at 1 m A          | $V_{(BR)R}$ | 100    | V     |
| Maximum Forward Voltage          | at 1 mA           | $V_F$       | 0.715  | V     |
|                                  | at 10 mA          |             | 0.855  |       |
|                                  | at 50 mA          |             | 1.00   |       |
|                                  | at 150 mA         |             | 1.25   |       |
| Peak Reverse Current             | at V=20V Tj=25°C  | $I_R$       | 0.03   | uA    |
|                                  | at V=80V Tj=25°C  |             | 0.5    |       |
|                                  | at V=25V Tj=150°C |             | 30     |       |
|                                  | at V=80V Tj=150°C |             | 50     |       |
| Typical Junction Capacitance     | f=1MHz,VR=0V      | $C_j$       | 1.5    | pF    |
| Maximum Reverse Recovery time(5) |                   | $t_{rr}$    | 4      | ns    |

Notes

- 1.No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- 2.Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine,<900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 3.Automotive products are AEC-Q101 qualified and are PPAP capable. Automotive, AEC-Q10x and standard products are electrically and thermally the same,except where specified.
- 4.P.C.B. mounted with 5\*5mm copper pad areas.
- 5.Measured with  $I_F=I_R=10mA, I_{rr}=0.1 \times I_R, R_L=100\Omega$ .



Fig.1 Power Derating Curve

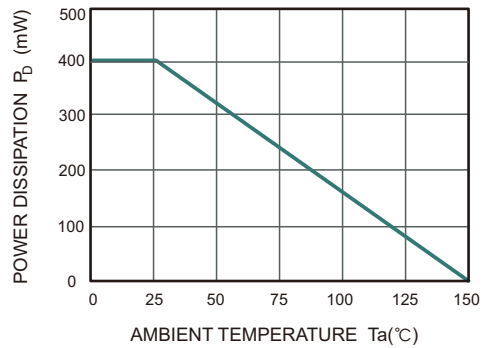


Fig.2 Reverse Characteristics

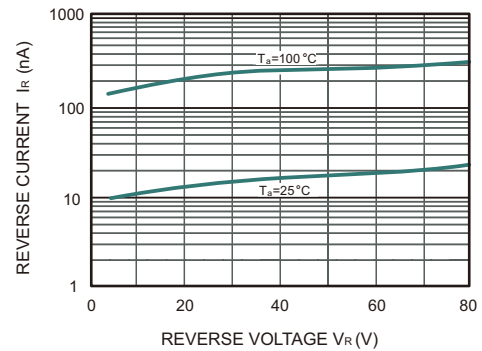


Fig.3 Forward Characteristics

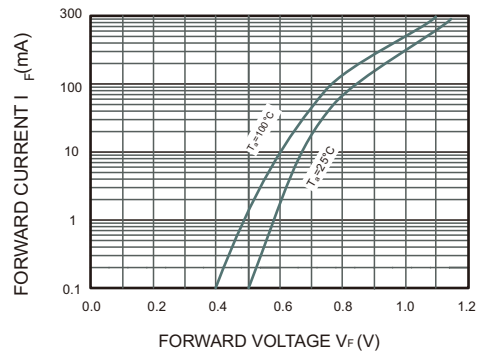
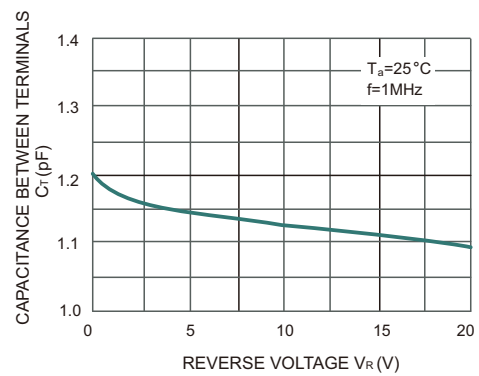


Fig.4 Capacitance Characteristics

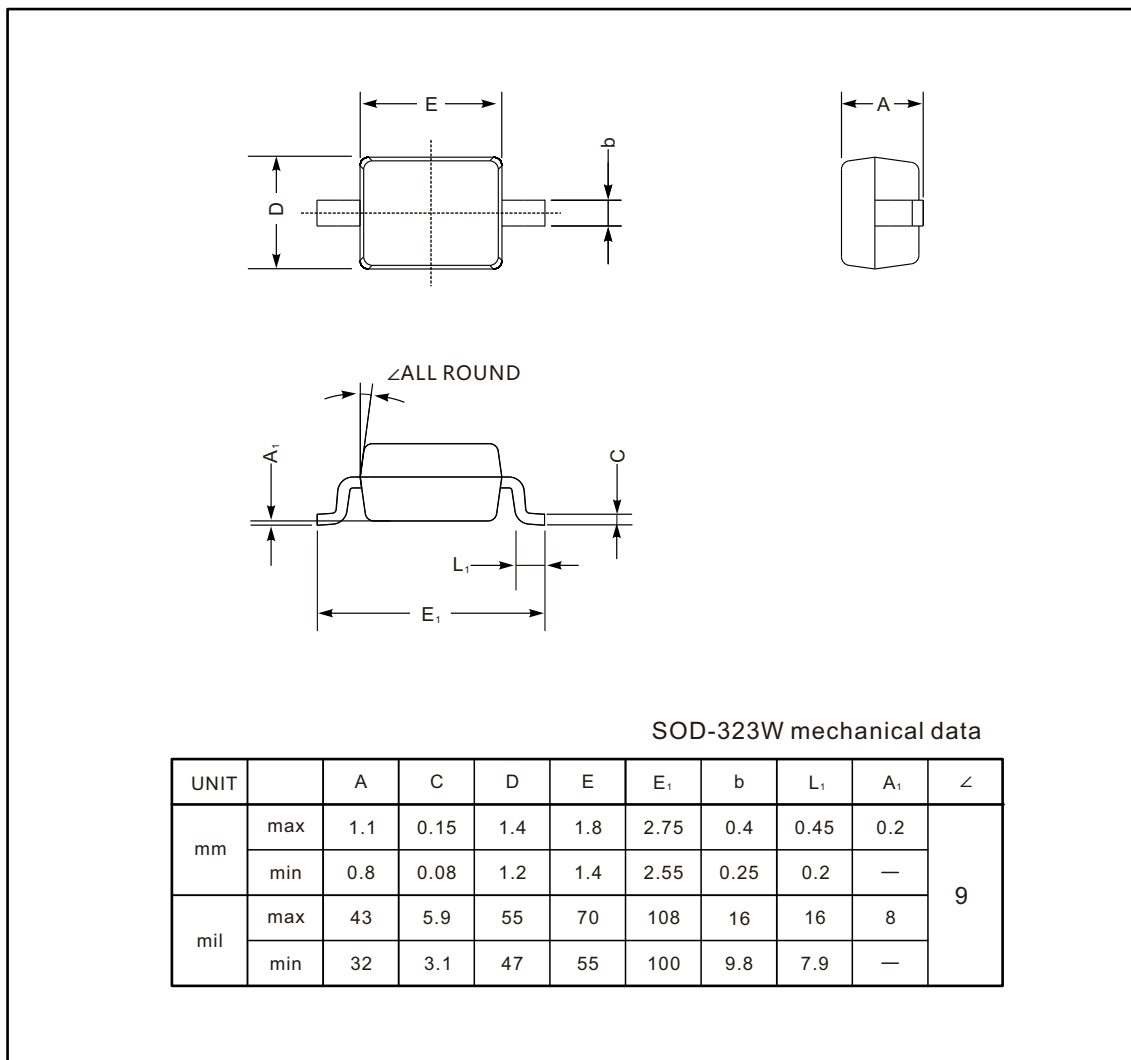




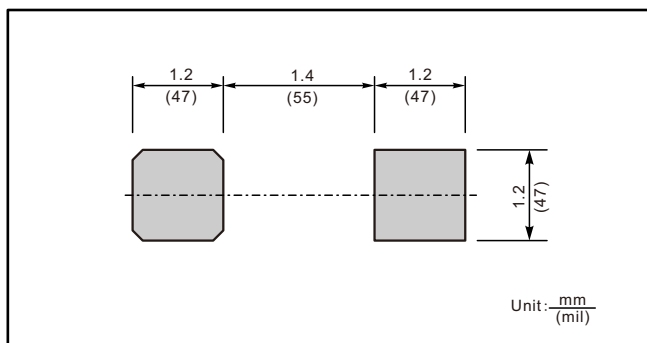
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323W



The recommended mounting pad size



Marking

| Type number | Marking code |
|-------------|--------------|
| BAS316      | A6           |



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