



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

## SOD-523 Plastic-Encapsulate Diodes

### BAS16X Switching Diode

SOD-523

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#### FEATURES

- High-Speed Switching Applications
- Lead Finish: 100% Matte Sn ( Tin )
- Qualified Reflow Temperature: 260 °C
- Extremely Small SOD-523 Package

#### MARKING: A6

#### Maximum Ratings and Electrical Characteristics, Single Diode @T<sub>A</sub>=25°C

| Parameter                              | Symbol                            | Limits | Unit |
|----------------------------------------|-----------------------------------|--------|------|
| DC reverse voltage                     | V <sub>R</sub>                    | 75     | V    |
| Forward current                        | I <sub>F</sub>                    | 200    | mA   |
| Pak forward surge current              | I <sub>FM(surge)</sub>            | 500    | mA   |
| Total Device Dissipation               | P <sub>D</sub>                    | 150    | mW   |
| Thermal Resistance Junction to Ambient | R <sub>θJA</sub>                  | 635    | °C/W |
| Junction and storage temperature       | T <sub>j</sub> , T <sub>stg</sub> | 150    | °C   |

#### Electrical Ratings @T<sub>A</sub>=25°C

| Parameter                 | Symbol             | Min. | Typ. | Max. | Unit | Conditions                                                        |
|---------------------------|--------------------|------|------|------|------|-------------------------------------------------------------------|
| Reverse breakdown voltage | V <sub>(BR)R</sub> | 75   |      |      |      | I <sub>R</sub> =100uA                                             |
| Forward voltage           | V <sub>F1</sub>    |      |      | 715  | mV   | I <sub>F</sub> =1mA                                               |
|                           | V <sub>F2</sub>    |      |      | 815  |      | I <sub>F</sub> =10mA                                              |
|                           | V <sub>F3</sub>    |      |      | 1000 |      | I <sub>F</sub> =50mA                                              |
|                           | V <sub>F4</sub>    |      |      | 1250 |      | I <sub>F</sub> =150mA                                             |
| Reverse recovery Time     | t <sub>rr</sub>    |      |      | 6.0  | ns   | I <sub>F</sub> =I <sub>R</sub> =10mAdc, R <sub>L</sub> =50Ω       |
| Reverse current           | I <sub>R1</sub>    |      |      | 1.0  | μ A  | V <sub>R</sub> =75V                                               |
|                           | I <sub>R2</sub>    |      |      | 50   |      | V <sub>R</sub> =75V, T <sub>j</sub> =150°C                        |
|                           | I <sub>R3</sub>    |      |      | 30   |      | V <sub>R</sub> =75V, T <sub>j</sub> =150°C                        |
| Forward recovery voltage  | V <sub>FR</sub>    |      |      | 1.75 | V    | I <sub>F</sub> =10mA, t <sub>r</sub> = 20ns                       |
| Diode Capacitance         | C <sub>D</sub>     |      |      | 2.0  | pF   | V <sub>R</sub> =0V, f=1MHZ                                        |
| Stored charge             | Q <sub>s</sub>     |      |      | 45   | pC   | I <sub>F</sub> =10mA, V <sub>R</sub> =5.0V , R <sub>L</sub> =500Ω |



## Typical Characteristics

## BAS16X

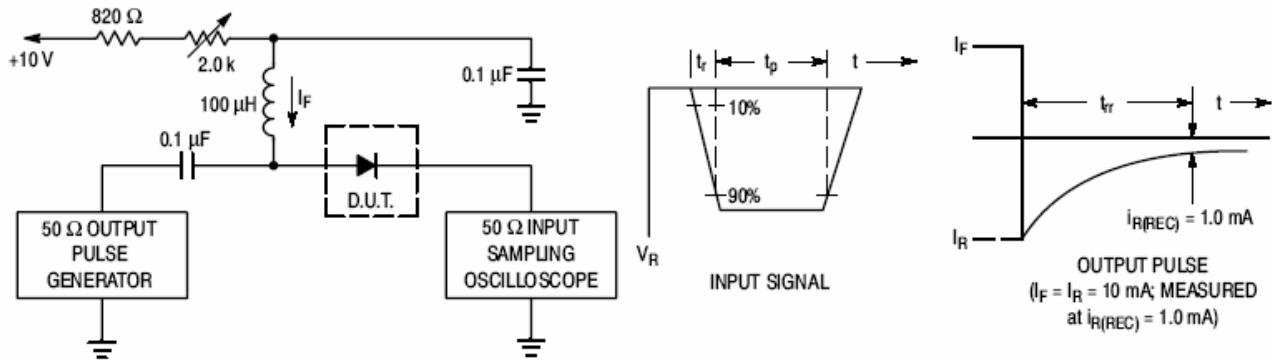


Figure 1. Recovery Time Equivalent Test Circuit

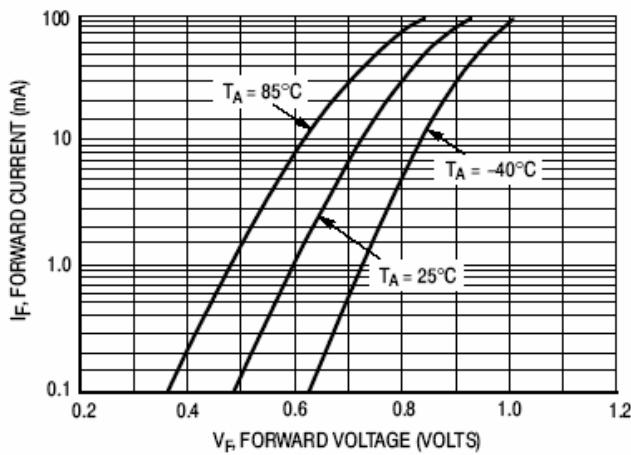


Figure 2. Forward Voltage

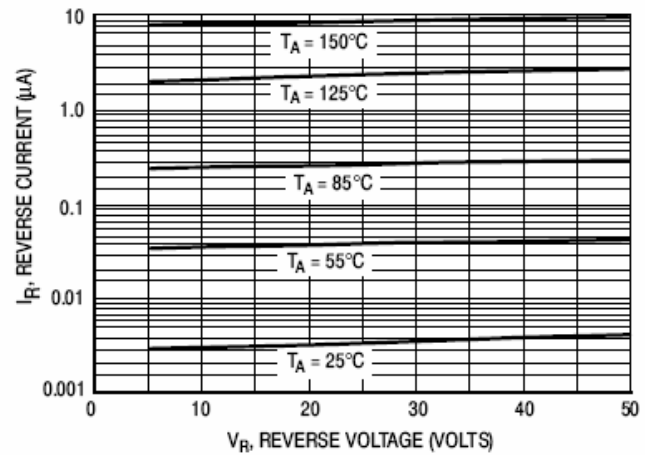


Figure 3. Leakage Current

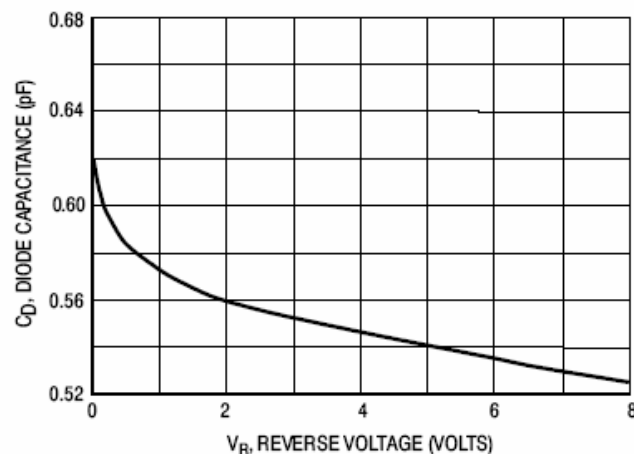


Figure 4. Capacitance