

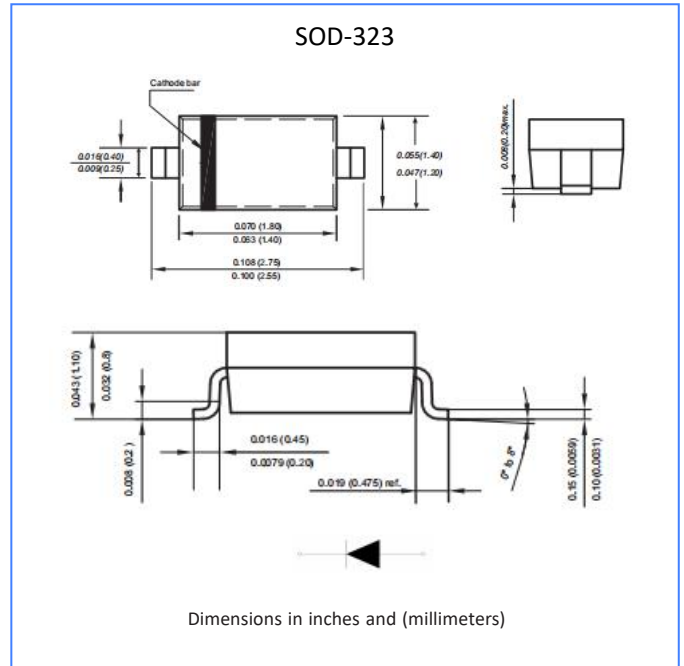
## US05AWS THRU US05MWS

### Features

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- High efficiency
- Lead free in comply with EU RoHS 2011/65/EU directives

### Mechanical Data

- Case:SOD-323
- Terminals: Solderable per MIL-STD-750, Method 20
- Approx. .Weight : 0.00 19 ounce, 0.0548 grams



### Absolute Maximum Ratings And Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter  | Symbols                           | US05AWS    | US05BWS | US05DWS | US05GWS | US05JWS | US05KWS | US05MWS | Units |
|--|-----------------------------------|------------|---------|---------|---------|---------|---------|---------|-------|
| Maximum Repetitive Peak Reverse Voltage  | V <sub>RRM</sub>                  | 50         | 100     | 200     | 400     | 600     | 800     | 1000    | V     |
| Maximum RMS voltage  | V <sub>RMS</sub>                  | 35         | 70      | 140     | 280     | 420     | 560     | 700     | V     |
| Maximum DC Blocking Voltage  | V <sub>DC</sub>                   | 50         | 100     | 200     | 400     | 600     | 800     | 1000    | V     |
| Maximum Average Forward Rectified Current at Tc = 125 °C                           | I <sub>F(AV)</sub>                | 0.5        |         |         |         |         |         |         | A     |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | I <sub>FSM</sub>                  | 15         |         |         |         |         |         |         | A     |
| Maximum Instantaneous Forward Voltage at 1 A                                       | V <sub>F</sub>                    | 1.0        |         |         |         | 1.30    |         | 1.65    | V     |
| Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta =125 °C      | I <sub>R</sub>                    | 5<br>100   |         |         |         |         |         |         | μ A   |
| Maximum Reverse Recovery Time <sup>(1)</sup>                                       | trr                               | 50         |         |         |         | 75      |         |         | ns    |
| Typical Junction Capacitance <sup>(2)</sup>  | C <sub>j</sub>                    | 8          |         |         |         |         |         |         | pF    |
| Typical Thermal Resistance <sup>(3)</sup>  | RθJA                              | 85         |         |         |         |         |         |         | °C/W  |
| Operating and Storage Temperature Range  | T <sub>J</sub> , T <sub>stg</sub> | -55 ~ +150 |         |         |         |         |         |         | °C    |

<sup>(1)</sup> Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ 
<sup>(2)</sup> Measured at 1 MHz and applied reverse voltage of 4 V D.C

<sup>(3)</sup> P.C.B. mounted with 0.2" X 0.2" (5 X 5 mm) copper pad areas

## Rating And Characteristic Curves

Fig.1 Forward Current Derating Curve

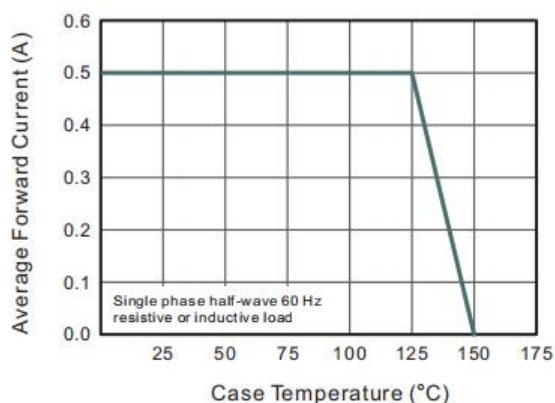


Fig.2 Typical Instantaneous Reverse Characteristics

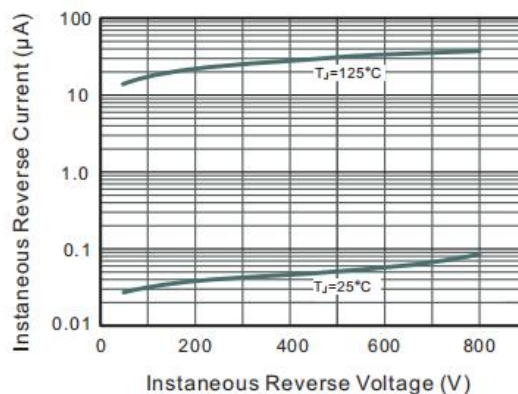


Fig.3 Typical Instantaneous Forward Characteristics

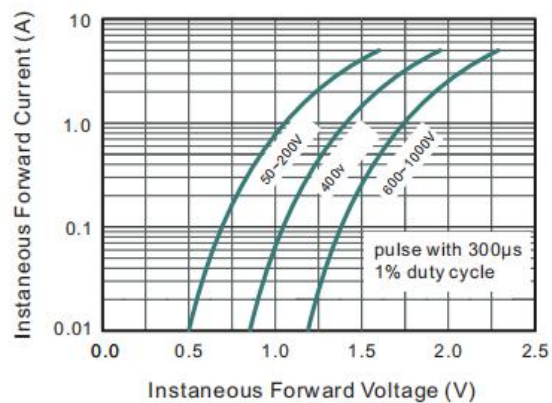


Fig.4 Typical Junction Capacitance

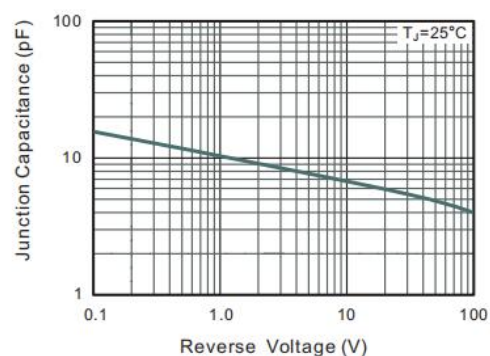
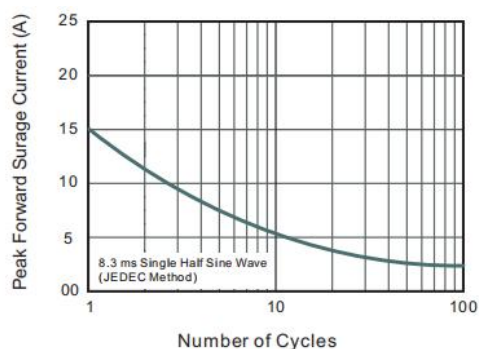
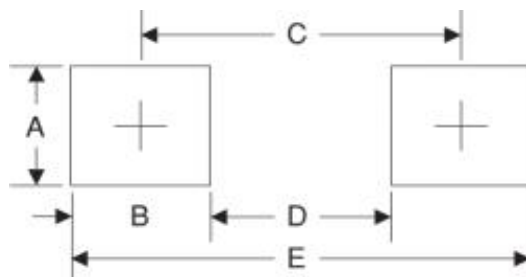


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current<sub>25</sub>



## Suggested Pad Layout



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 1.2       | 0.047       |
| B      | 1.2       | 0.047       |
| C      | 3.6       | 0.141       |
| D      | 1.4       | 0.055       |
| E      | 3.8       | 0.149       |