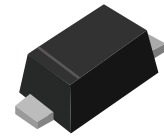


## FEATURES

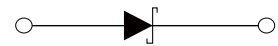
- | Low Forward Voltage Drop
- | Extremely Small SOD-323FL Package
- | Surface Device Type Mounting
- | Green EMC
- | Band Indicates Cathode



SOD-323FL



Marking



Schematic Symbol

## APPLICATION

- | Low voltage rectification
- | Reverse polarity protection
- | Low power consumption applications

## APPROVALS

|      |                                    |
|------|------------------------------------|
| RoHS | Compliance with 2011/65/EU         |
| HF   | Compliance with IEC61249-2-21:2003 |

## MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ )

| Parameter                                                   | Symbol      | Value      | Unit               |
|-------------------------------------------------------------|-------------|------------|--------------------|
| Maximum repetitive reverse voltage                          | $V_{RRM}$   | 40         | V                  |
| Maximum DC blocking reverse voltage                         | $V_R$       | 40         | V                  |
| Average Forward Current                                     | $I_{F(AV)}$ | 1          | A                  |
| Peak Forward Surge Current (At 8.3ms single half sine-wave) | $I_{FSM}$   | 20         | A                  |
| Operating Junction Range                                    | $T_J$       | 125        | $^{\circ}\text{C}$ |
| Storage Temperature Range                                   | $T_{STG}$   | -50 to 150 | $^{\circ}\text{C}$ |

These ratings are limiting values above which the serviceability of the diode may be impaired.

## ELECTRICAL CHARACTERISTICS( $T_A=25^{\circ}\text{C}$ )

| Parameter               | Symbol   | Test Conditions                           | Min. | Typ. | Max. | Unit          |
|-------------------------|----------|-------------------------------------------|------|------|------|---------------|
| Forward Voltage         | $V_F$    | $I_F=1\text{A}$                           |      |      | 0.53 | V             |
| Reverse Leakage Current | $I_R$    | $V_R=40\text{V}, T_A=25^{\circ}\text{C}$  |      |      | 150  | $\mu\text{A}$ |
|                         |          | $V_R=40\text{V}, T_A=100^{\circ}\text{C}$ |      |      | 9    | mA            |
| Breakdown Voltage       | $V_{BR}$ | $I_R=1\text{mA}$                          | 40   |      |      | V             |
| Junction Capacitance    | $C_J$    | $V_R=40\text{V}, f=1\text{MHz}$           |      | 40   |      | pF            |

## CHARACTERISTIC CURVES

Fig.1 Typical Forward Current Derating Curve

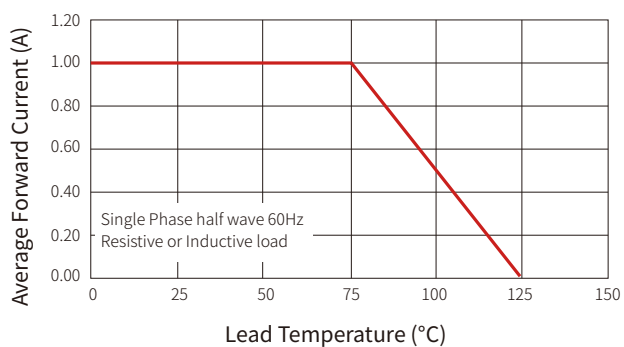
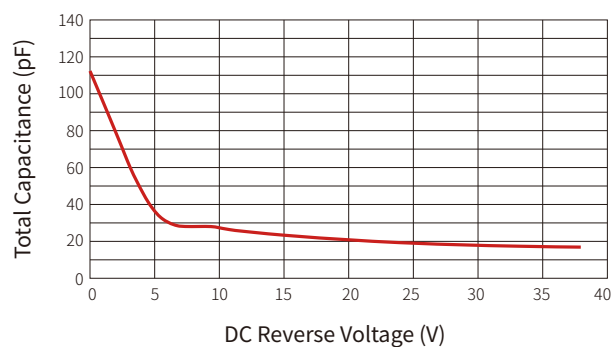
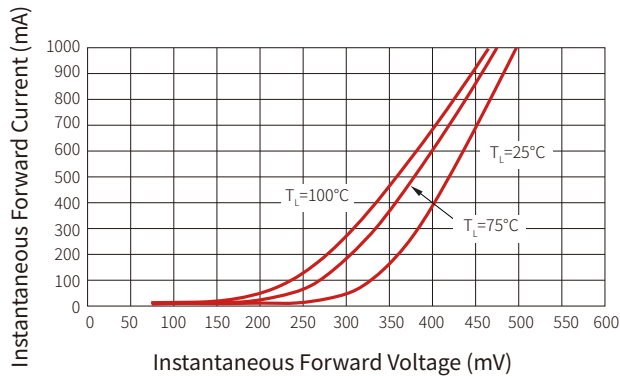
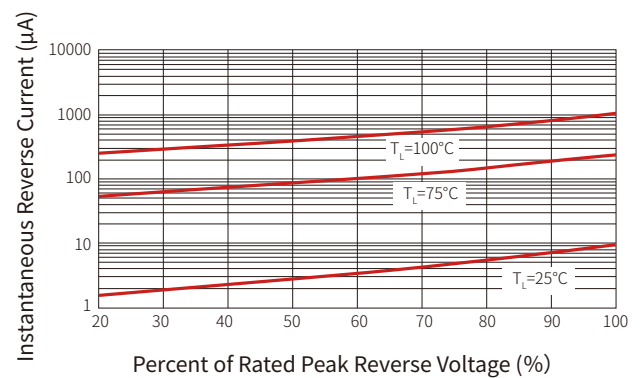


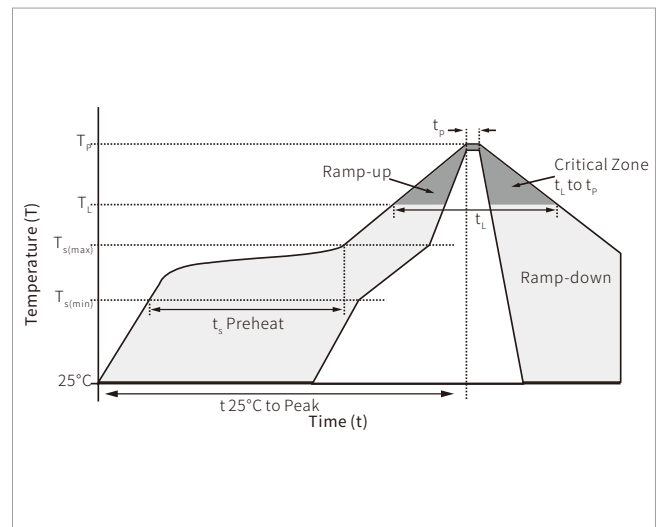
Fig.2 Total Capacitance vs. Reverse Voltage



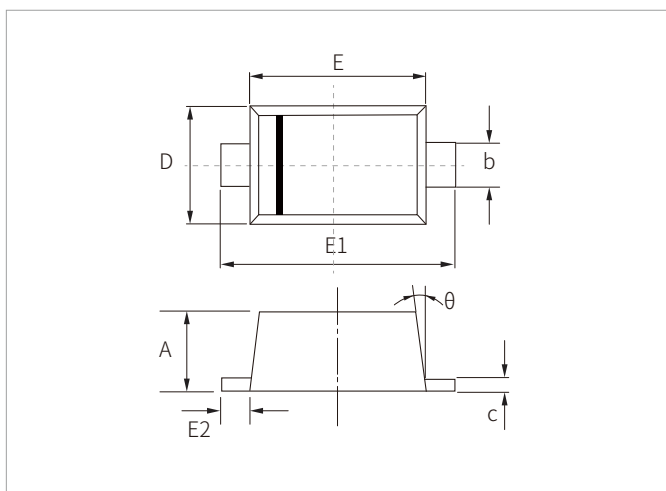
**Fig.3 Typical Instantaneous Forward Characteristics**

**Fig.4 Typical Reverse Characteristics**


## SOLDERING PARAMETERS

| Reflow Condition                                       |                                   | Lead-free assembly |
|--------------------------------------------------------|-----------------------------------|--------------------|
| Pre Heat                                               | Temperature Max ( $T_{s(\min)}$ ) | 150°C              |
|                                                        | Temperature Max ( $T_{s(\max)}$ ) | 200°C              |
|                                                        | Time (min to max) ( $t_s$ )       | 60 – 180 secs      |
| Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak) |                                   | 3°C/second max     |
| $T_{s(\max)}$ to $T_L$ - Ramp-up Rate                  |                                   | 3°C/second max     |
| Reflow                                                 | Temperature ( $T_L$ ) (Liquidus)  | 217°C              |
|                                                        | Time (min to max) ( $t_L$ )       | 60 – 150 seconds   |
| Peak Temperature ( $T_p$ )                             |                                   | 260°C              |
| Time within 5°C of actual peak Temperature ( $t_p$ )   |                                   | 20 – 40 seconds    |
| Ramp-down Rate                                         |                                   | 6°C/second max     |
| Time 25°C to peak Temperature ( $T_p$ )                |                                   | 8 minutes max.     |
| Do not exceed                                          |                                   | 260°C              |

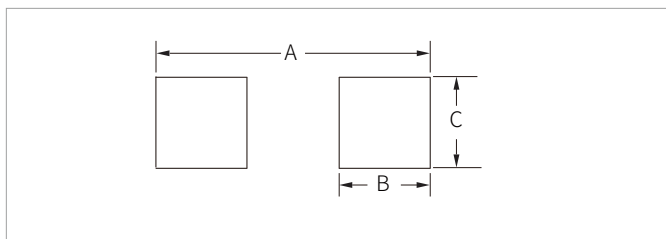


## SOD-323FL PACKAGE INFORMATION



| Ref. | Millimeters |      | Inches |       |
|------|-------------|------|--------|-------|
|      | Min.        | Max. | Min.   | Max.  |
| A    | 0.50        | 0.80 | 0.020  | 0.031 |
| b    | 0.25        | 0.40 | 0.010  | 0.016 |
| c    | 0.07        | 0.20 | 0.003  | 0.008 |
| D    | 1.15        | 1.35 | 0.045  | 0.053 |
| E    | 1.60        | 1.80 | 0.063  | 0.071 |
| E1   | 2.30        | 2.70 | 0.091  | 0.106 |
| E2   | 0.30        | 0.50 | 0.012  | 0.020 |
| θ    | 9°          |      | 0.354° |       |

## RECOMMENDED PAD LAYOUT DIMENSIONS



| Ref. | Millimeters | Inches  |
|------|-------------|---------|
|      | Nominal     | Nominal |
| A    | 3.05        | 0.120   |
| B    | 0.80        | 0.031   |
| C    | 0.80        | 0.031   |

## ORDERING INFORMATION

| Part Number | Component Package | QTY/Reel | Reel Size |
|-------------|-------------------|----------|-----------|
| RB1040FWS   | SOD-323FL         | 3000PCS  | 7"        |

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