

## Maximum Ratings (@T<sub>A</sub> = +25°C, unless otherwise specified.)

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

| Characteristic                                                                                      | Symbol                                                  | Value | Unit |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------|-------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage              | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>RM</sub> | 40    | V    |
| Average Rectified Output Current                                                                    | I <sub>O</sub>                                          | 1     | A    |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>Single Half Sine-Wave Superimposed on Rated Load | I <sub>FSM</sub>                                        | 30    | A    |

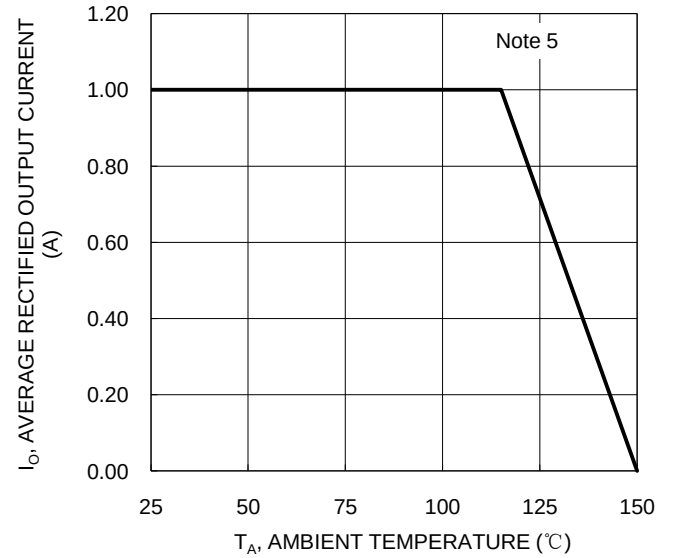
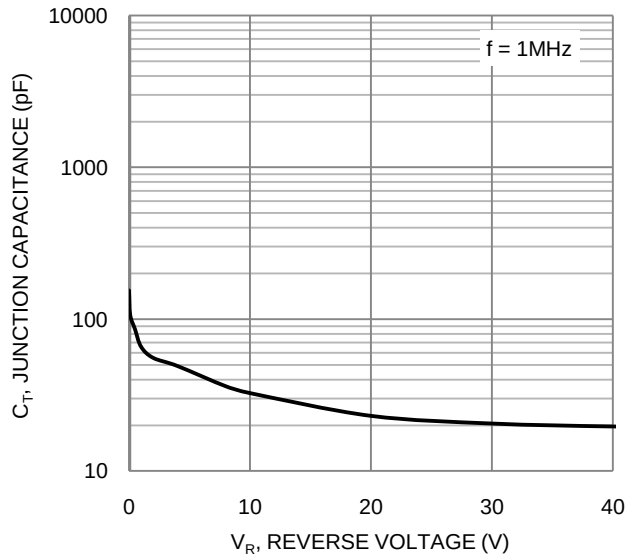
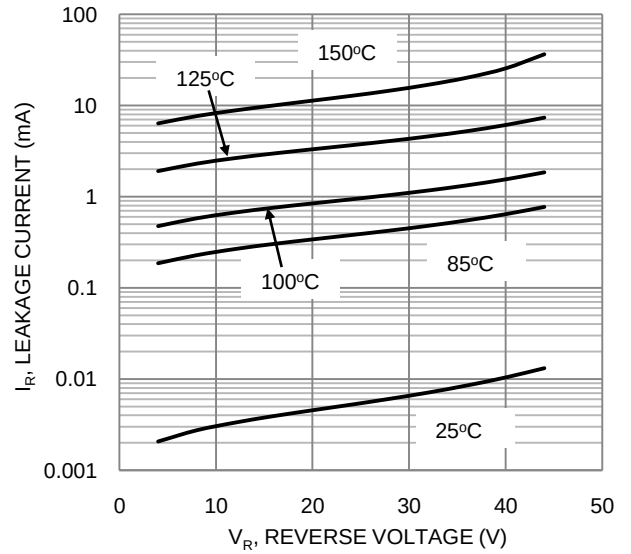
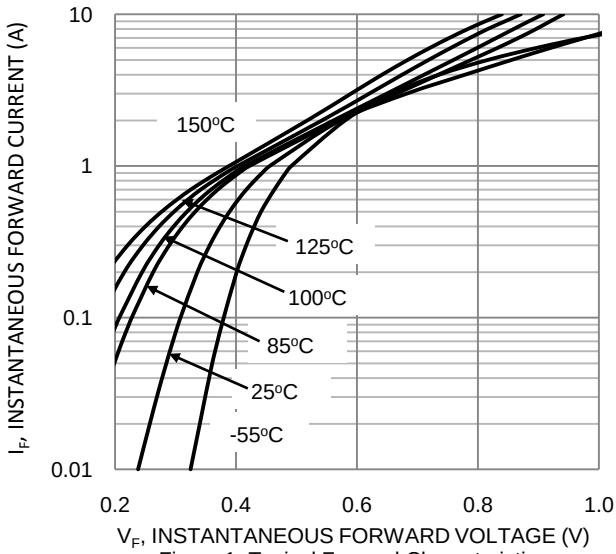
## Thermal Characteristics

| Characteristic                                          | Symbol                            | Value       | Unit |
|---------------------------------------------------------|-----------------------------------|-------------|------|
| Typical Thermal Resistance Junction to Ambient (Note 5) | R <sub>θJA</sub>                  | 100         | °C/W |
| Typical Thermal Resistance Junction to Case (Note 5)    | R <sub>θJC</sub>                  | 50          | °C/W |
| Operating and Storage Temperature Range                 | T <sub>J</sub> , T <sub>STG</sub> | -55 to +150 | °C   |

## Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

| Characteristic           | Symbol         | Min | Typ           | Max       | Unit | Test Condition                                                                                |
|--------------------------|----------------|-----|---------------|-----------|------|-----------------------------------------------------------------------------------------------|
| Forward Voltage Drop     | V <sub>F</sub> | —   | 0.45<br>0.40  | 0.50<br>— | V    | I <sub>F</sub> = 1A, T <sub>J</sub> = +25°C<br>I <sub>F</sub> = 1A, T <sub>J</sub> = +125°C   |
| Leakage Current (Note 6) | I <sub>R</sub> | —   | 0.012<br>6.14 | 0.2<br>—  | mA   | V <sub>R</sub> = 40V, T <sub>J</sub> = +25°C<br>V <sub>R</sub> = 40V, T <sub>J</sub> = +125°C |
| Typical Capacitance      | C <sub>T</sub> | —   | 50            | —         | pF   | V <sub>R</sub> = 4.0V, f = 1MHz                                                               |

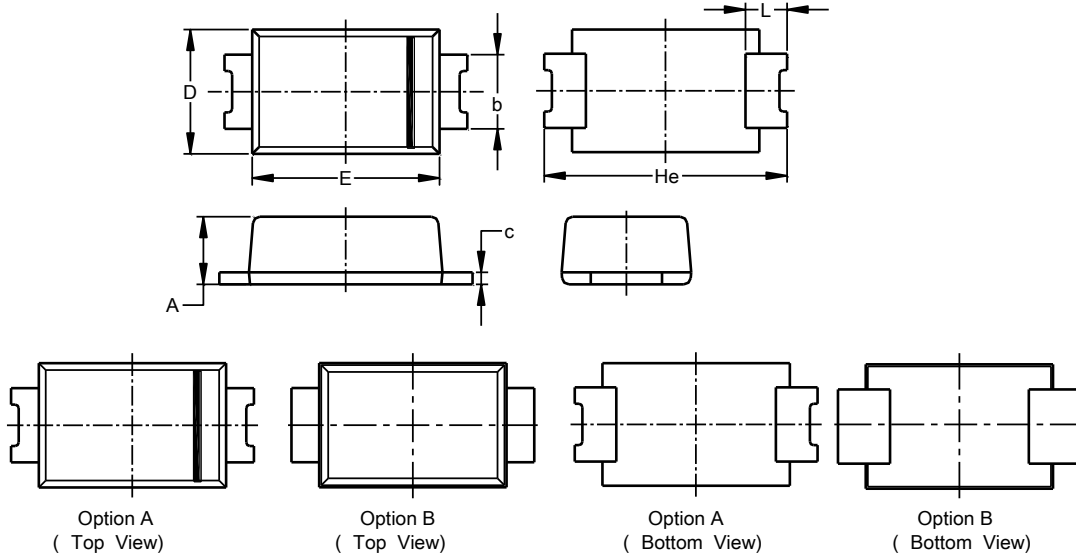
Notes: 5. Device mounted on FR-4 substrate, 0.4" x 0.5", 2oz, single-sided, PC boards with 0.2" x 0.25" copper pad.  
6. Short duration pulse test used to minimize self-heating effect.



## Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### SOD123F (Generic)

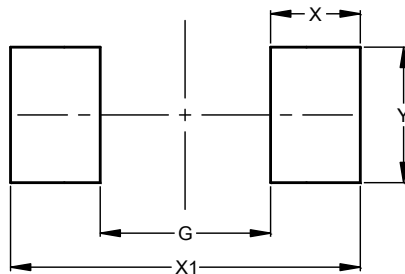


| SOD123F (Generic)    |      |      |      |
|----------------------|------|------|------|
| Dim                  | Min  | Max  | Typ  |
| A                    | 0.81 | 1.15 | -    |
| b                    | 0.80 | 1.35 | -    |
| c                    | 0.05 | 0.30 | -    |
| D                    | 1.70 | 1.90 | 1.80 |
| E                    | 2.60 | 2.80 | 2.70 |
| He                   | 3.30 | 3.70 | 3.50 |
| L                    | 0.35 | 0.85 | -    |
| All Dimensions in mm |      |      |      |

## Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

### SOD123F (Generic)



| Dimensions | Value (in mm) |
|------------|---------------|
| G          | 1.90          |
| X          | 1.00          |
| X1         | 3.90          |
| Y          | 1.50          |

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