

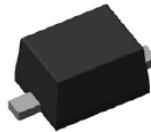
Features

- Fast Switching Speed: $t_r \leq 4.0\text{ns}$
- Low Leakage Current: $I_R \leq 25\text{nA}$
- Low Capacitance: $C_T \leq 4\text{pF}$
- Flat Lead for High Thermal Efficiency
- Small Surface Mount Package
- **Lead, Halogen and Antimony Free, RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOD323F
- Case Material: Molded Plastic, "Green Molding Compound".
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band
- Terminals: Finish - Matte Tin annealed over Copper Alloy leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.007 grams (approximate)

SOD323F



Top View

Ordering Information (Note 3)

| Part Number | Qualification | Case | Packaging |
|--------------|---------------|---------|------------------|
| 1N4448WSF-7 | Commercial | SOD323F | 3000/Tape & Reel |
| 1N4448WSFQ-7 | Automotive | SOD323F | 3000/Tape & Reel |

- Notes:
1. No purposefully added lead. Halogen and Antimony Free.
 2. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com>.
 3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



TK = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: Y = 2011)
 M = Month (ex: 9 = September)

Date Code Key

| Year Code | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|-----------|------|------|------|------|------|------|------|------|
| Year Code | Y | Z | A | B | C | D | E | F |

| Month Code | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Month Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |

Maximum Ratings @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|---------------------|-------------|------|
| Non-Repetitive Peak Reverse Voltage | V _{RM} | 100 | V |
| Peak Repetitive Reverse Voltage | V _{RRM} | 75 | V |
| Working Peak Reverse Voltage | V _{RWM} | | |
| DC Blocking Voltage | V _R | | |
| RMS Reverse Voltage | V _{R(RMS)} | 53 | V |
| Forward Continuous Current | I _{FM} | 500 | mA |
| Average Rectified Output Current | I _O | 250 | mA |
| Non-Repetitive Peak Forward Surge Current | I _{FSM} | @ t = 1.0μs | 4 |
| | | @ t = 1.0s | 0.5 |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Power Dissipation (Note 4) | P _D | 400 | mW |
| Thermal Resistance Junction to Ambient Air (Note 4) | R _{θJA} | 313 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | °C |

Electrical Characteristics @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Min | Max | Unit | Test Condition |
|------------------------------------|--------------------|------|-------|------|---|
| Reverse Breakdown Voltage (Note 5) | V _{(BR)R} | 75 | — | V | I _R = 100μA |
| Forward Voltage | V _F | 0.62 | 0.72 | V | I _F = 5.0mA |
| | | — | 0.855 | | I _F = 10mA |
| | | — | 1.0 | | I _F = 100mA |
| | | — | 1.25 | | I _F = 150mA |
| Leakage Current (Note 5) | I _R | — | 2.5 | μA | V _R = 75V |
| | | — | 50 | μA | V _R = 75V, T _J = 150°C |
| | | — | 30 | μA | V _R = 25V, T _J = 150°C |
| | | — | 25 | nA | V _R = 20V |
| Total Capacitance | C _T | — | 4.0 | pF | V _R = 0, f = 1.0MHz |
| Reverse Recovery Time | t _{rr} | — | 4.0 | ns | I _F = I _R = 10mA, I _{rr} = 0.1 x I _R , R _L = 100Ω |

Notes: 4. Part mounted on FR-4 PC board with minimum recommended pad layouts, which can be found on our website at <http://www.diodes.com>.
5. Short duration pulse test used to minimize self-heating.



Fig. 1 Forward Current Derating Curve



Fig. 2 Typical Forward Characteristics



Fig. 3 Typical Reverse Characteristics

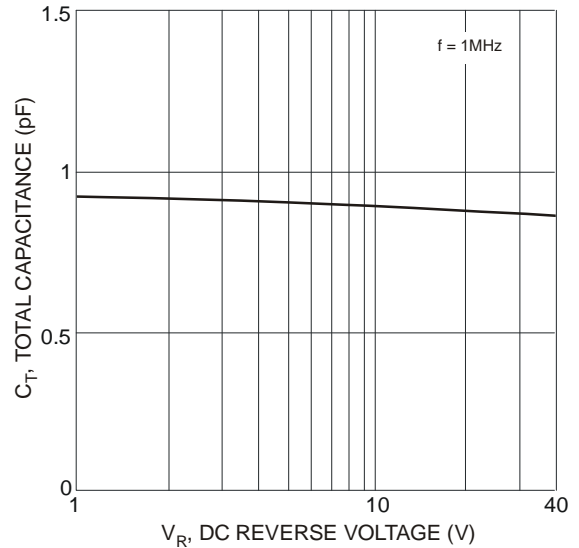
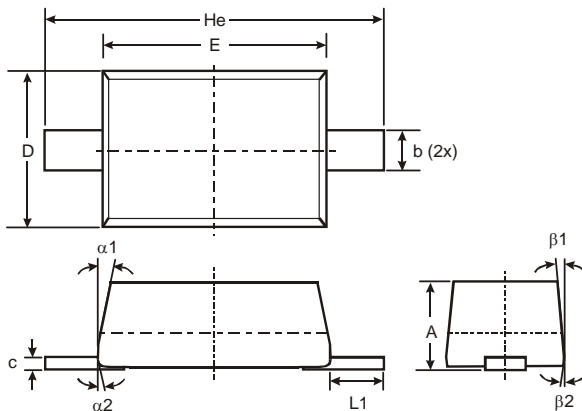


Fig. 4 Total Capacitance vs. Reverse Voltage

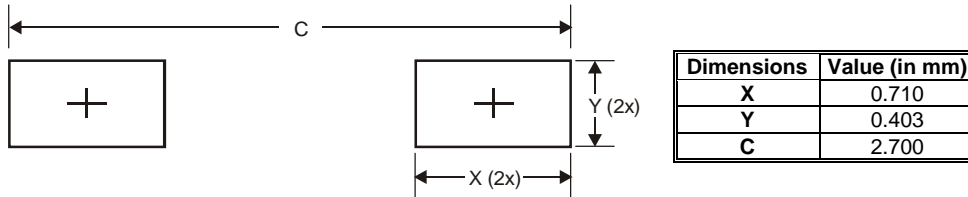
Package Outline Dimensions



| SOD323F | | | |
|---------|------|------|------|
| Dim | Min | Max | Typ |
| A | 0.60 | 0.75 | - |
| b | 0.25 | 0.35 | - |
| c | 0.05 | 0.26 | - |
| D | 1.15 | 1.35 | 1.25 |
| E | 1.60 | 1.80 | 1.70 |
| He | 2.30 | 2.70 | 2.50 |
| L1 | 0.30 | 0.50 | 0.40 |
| α1 | - | - | 7° |
| α2 | - | - | 3° |
| β1 | - | - | 7° |
| β2 | - | - | 3° |

All Dimensions in mm

Suggested Pad Layout



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