

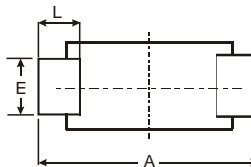
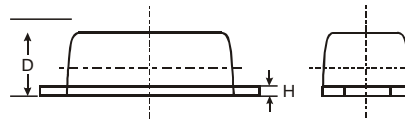
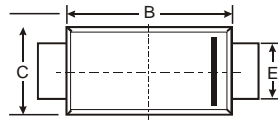
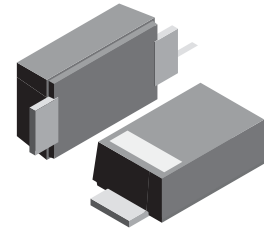
VOLTAGE RANGE: 20 - 40V
CURRENT: 500mA

Features

- Low forward voltage drop
- Guard ring construction for transient protection
- High conductance
- Also available in lead free version

Mechanical Data

- Case: JEDEC SOD-123FL molded plastic body over passivated chip
- Terminals : Plated axial leads, solderable per MIL-STD-750, Method 2026
- Weight: 0.0007 ounce, 0.02 grams



| SOD-123FL | | | |
|----------------------|------|------|-------|
| Dim | Min | Max | Typ |
| A | 3.50 | 3.80 | 3.65 |
| B | 2.60 | 2.90 | 2.75 |
| C | 1.70 | 1.90 | 1.80 |
| D | 0.09 | 1.10 | 1.00 |
| E | 0.08 | 1.10 | 0.095 |
| H | 0.12 | 0.20 | 0.16 |
| L | 0.07 | 0.09 | 0.08 |
| All Dimensions in mm | | | |

Maximum Ratings and Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise specified

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

| PARAMETER | SYMBOLS | B0520 W | B0530W | B0540W | UNITS |
|--|-----------------|---------|-------------|--------|--------------------|
| Peak repetitive peak reverse voltage | V_{RRM} | | | | VOLTS |
| Working peak reverse voltage | V_{RWM} | 20 | 30 | 40 | |
| DC Blocking voltage | V_R | | | | |
| RMS Reverse voltage | $V_{R(RMS)}$ | 14 | 21 | 28 | V |
| Average rectified output current | I_o | | 500 | | mA |
| Peak forward surge current | I_{FSM} | | 5.5 | | mA |
| Power dissipation | P_d | | 410 | | mW |
| Thermal resistance junction to ambient | $R_{\theta JA}$ | | 244 | | K/ W |
| Storage temperature | T_{STG} | | -65 to +150 | | $^\circ\text{C/W}$ |
| Voltage rate of change | dv/dt | | 1000 | | V/ μS |

Electrical ratings @ $T_A = 25^\circ\text{C}$

| PARAMETER | SYMBOLS | B0520W | B0530W | B0540W | Unit | Conditions |
|-----------------------------------|----------|--------|--------|--------|---------------|---|
| Minimum reverse breakdown voltage | V_{BR} | 20 | | | V | $I_R = 250\mu\text{A}$ |
| | | | 30 | | V | $I_R = 130\mu\text{A}$ |
| | | | | 40 | V | $I_R = 20\mu\text{A}$ |
| Forward voltage | V_{F1} | 0.3 | 0.375 | | V | $I_F = 0.1\text{A}$ |
| | V_{F2} | 0.385 | 0.430 | 0.510 | V | $I_F = 0.5\text{A}$ |
| | V_{F3} | | | 0.62 | V | $I_F = 1.0\text{A}$ |
| Reverse current | I_{R1} | 75 | | | μA | $V_R = 10\text{V}$ |
| | I_{R2} | | 20 | | μA | $V_R = 15\text{V}$ |
| | I_{R3} | 250 | | 10 | μA | $V_R = 20\text{V}$ |
| | I_{R4} | | 130 | | μA | $V_R = 30\text{V}$ |
| | I_{R5} | | | 20 | μA | $V_R = 40\text{V}$ |
| Capacitance between terminals | C_T | | | 170 | pF | $V_R = 1\text{V}, f = 1.0\text{MHz}$ |
| Reverse recovery time | t_{rr} | | | 4 | ns | $I_F = I_R = 10\text{mA}$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ |

FIG. 1- FORWARD CURRENT DERATING CVRVE

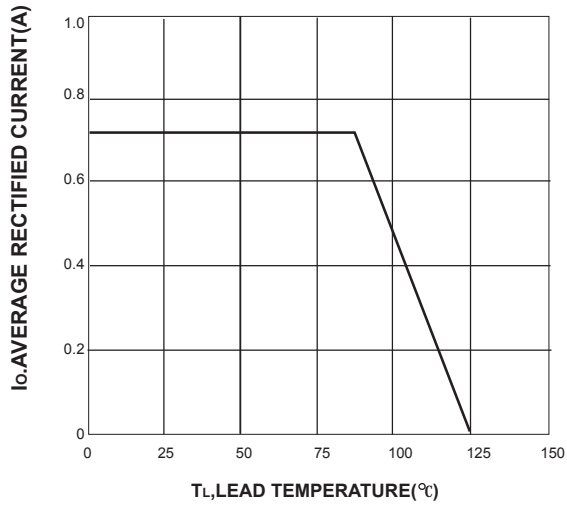


FIG. 2-TYPICAL FORWARD CHARACTERISTIC

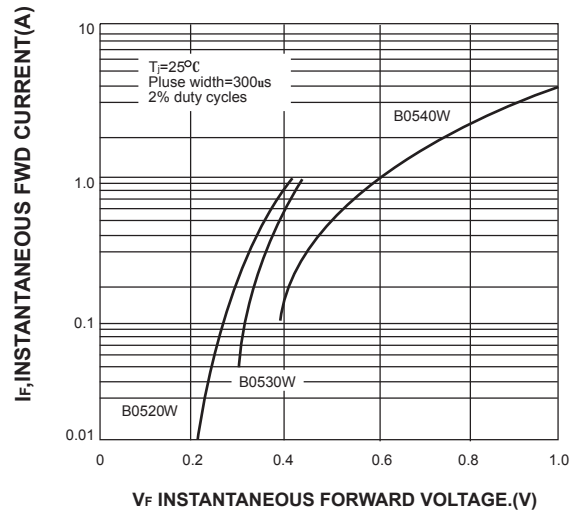


FIG. 3-TYP. JUNCTION CAPACITANCE VS REVERSE VOLTAGE

