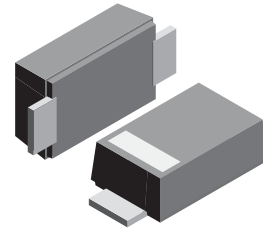


VOLTAGE RANGE: 20 - 40V
CURRENT: 500mA

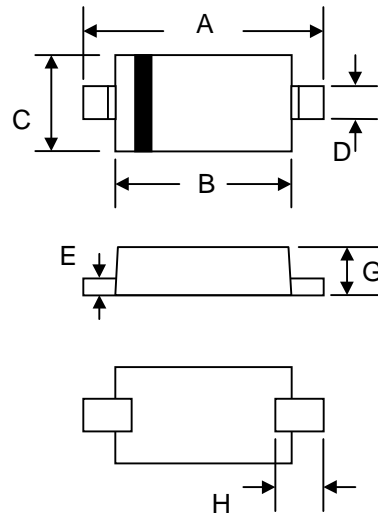
Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance



Mechanical Data

- Case: SOD-323, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.004 grams (approx.)



| SOD-323 | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 2.30 | 2.70 |
| B | 1.75 | 1.95 |
| C | 1.15 | 1.35 |
| D | 0.25 | 0.35 |
| E | 0.05 | 0.15 |
| G | 0.70 | 0.95 |
| H | 0.30 | — |
| 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%.

| Characteristic | Symbol | RB551V-20 | RB551V-30 | RB551V-40 | Unit |
|--|-----------------|-------------|-----------|-----------|---------------------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | 20 | 30 | 40 | V |
| Working Peak Reverse Voltage | V_{RWM} | | | | |
| 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 | | | A |
| Power Dissipation | P_d | 410 | | | mW |
| Thermal Resistance junction to Ambient | $R_{\theta JA}$ | 244 | | | $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range | T_J | +125 | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65 to +125 | | | $^\circ\text{C}$ |
| Voltage Rate of Change | dv/dt | 1000 | | | $\text{V}/\mu\text{s}$ |



Electrical Characteristics (T_A =25°C Unless otherwise noted)

| Characteristic | Symbol | RB551V-20 | RB551V-30 | RB551V-40 | Unit |
|--|--------------------|--------------------------|--------------------------|-------------------------|------|
| Reverse Breakdown Voltage I _R =250μA I _R =130μA I _R =20μA | V _{(BR)R} | 20 - - | - 30 - | - - 40 | V |
| Forward Voltage I _F =0.1A I _F =0.5A I _F =1.0A | V _F | 0.3 0.385 - | 0.375 0.430 - | - 0.510 0.62 | V |
| Reverse Current V _R =10V V _R =15V V _R =20V V _R =30V V _R =40V | I _R | 75 - 250 - - | - 20 - 130 - | - - 10 - 20 | μA |
| Capacitance between terminals V _R =1.0V, f=1.0MHz | C _T | | 170 | | pF |
| Reverse Recovery Time I _F =I _R =10mA I _{trr} =0.1 × I _R , R _L =100W | t _{rr} | | 4.0 | | ns |

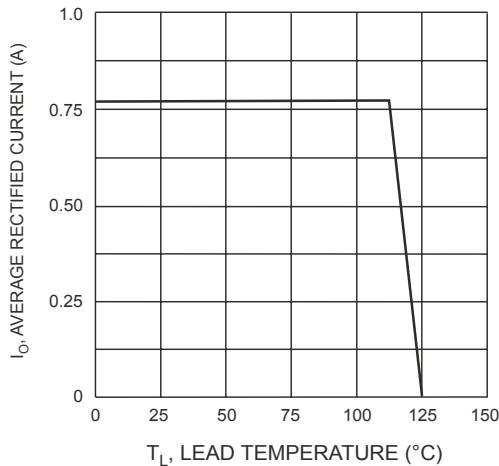


Fig. 1 Forward Current Derating Curve

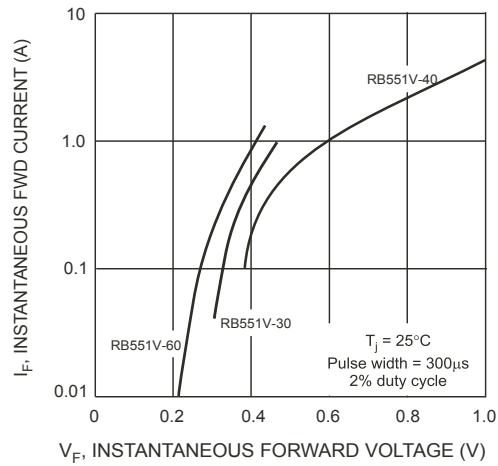


Fig. 2 Typical Forward Characteristics

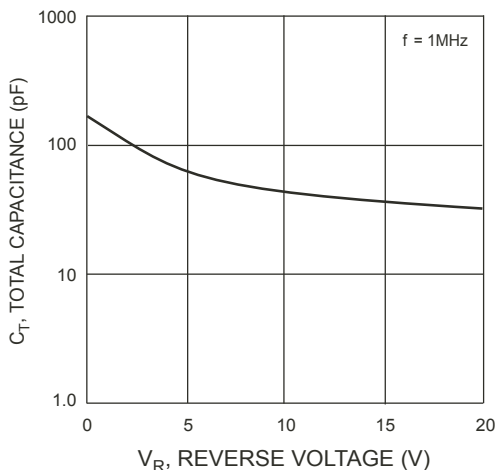


Fig. 3 Typ. Total Capacitance vs Reverse Voltage