

### Features

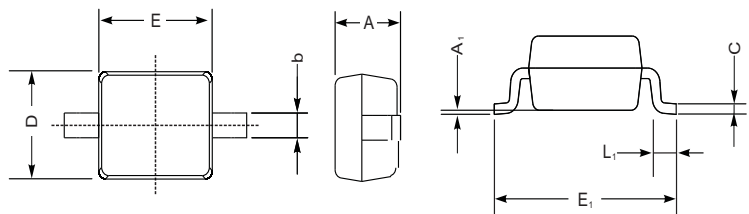
High Current Capability  
Low Forward Voltage Drop

### Mechanical Data

SOD-323 Small Outline Plastic Package  
Polarity: Color band denotes cathode end  
Epoxy UL: 94V-0  
Mounting Position: Any

**Marking:** B0520WS: SJ  
B0530WS: SE  
B0540WS: SL

SOD323



| UNIT |     | A   | C    | D   | E   | E <sub>1</sub> | b    | L <sub>1</sub> | A <sub>1</sub> |
|------|-----|-----|------|-----|-----|----------------|------|----------------|----------------|
| mm   | max | 1.1 | 0.15 | 1.4 | 1.8 | 2.75           | 0.4  | 0.45           | 0.2            |
|      | min | 0.8 | 0.08 | 1.2 | 1.4 | 2.55           | 0.25 | 0.2            | —              |
| mil  | max | 43  | 5.9  | 55  | 70  | 108            | 16   | 16             | 8              |
|      | min | 32  | 3.1  | 47  | 63  | 100            | 9.8  | 7.9            | —              |

### Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

| Parameters  | Symbol | B0520WS  | B0530WS | B0540WS | Unit |
|---|--------|----------|---------|---------|------|
| Maximum repetitive peak reverse voltage                 | VRRM   | 20       | 30      | 40      | V    |
| Maximum RMS voltage                                     | VRMS   | 14       | 21      | 28      | V    |
| Maximum DC blocking voltage                             | VDC    | 20       | 30      | 40      | V    |
| Maximum average forward rectified current               | IFM    | 0.5      |         |         | A    |
| Peak forward surge current 8.3 ms single half sine-wave | IFSM   | 5.5      |         |         | A    |
| Typical thermal resistance                              | RθJA   | 200      |         |         | °C/W |
| Power Dissipation                                       | PD     | 500      |         |         | mW   |
| Storage temperature range                               | TSTG   | -50-+150 |         |         | °C   |
| Voltage rate of change                                  | Dv/dt  | 1000     |         |         | V/μS |

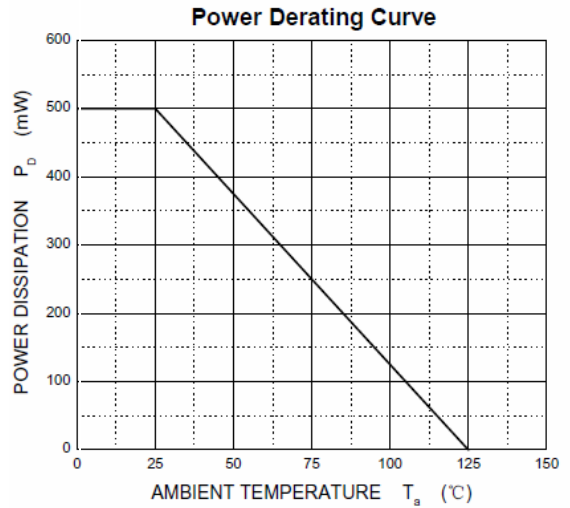
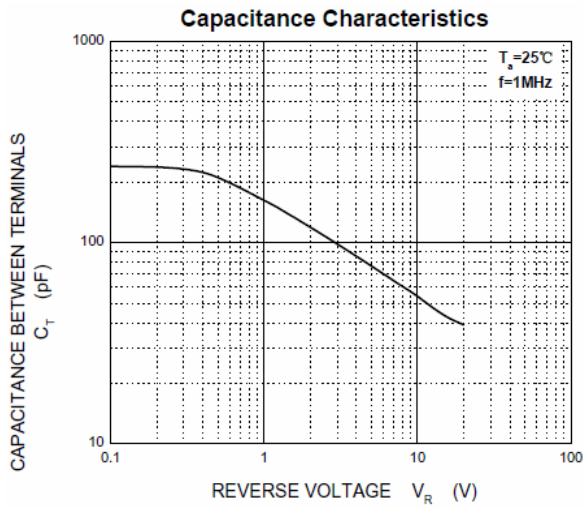
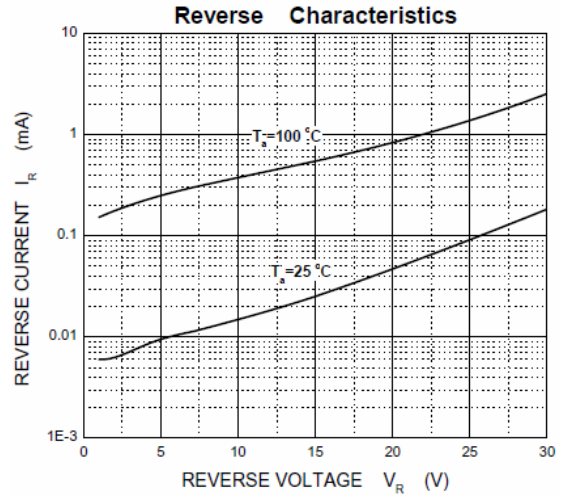
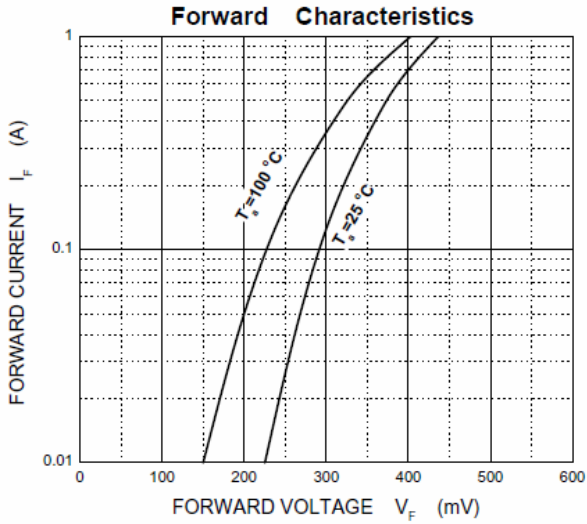
# B0520-B0540WS

## Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

| Parameters                        | Symbol | Test conditions   | B0520WS | B0530WS | B0540WS | Unit |
|-----------------------------------|--------|-------------------|---------|---------|---------|------|
| Maximum forward voltage           | VF     | IF = 0.1A         | 0.330   | 0.375   | ---     | V    |
|                                   |        | IF = 0.5A         | 0.385   | 0.430   | 0.510   |      |
|                                   |        | IF = 1.0A         | ---     | ---     | 0.620   |      |
| Maximum reverse breakdown voltage | VR     | IR=250uA          | 20      | ---     | ---     | V    |
|                                   |        | IR=200uA          | ---     | 30      | ---     |      |
|                                   |        | IR=20.0uA         | ---     | ---     | 40      |      |
| Maximum reverse current           | IR     | VR=10V            | 75      | ---     | ---     | uA   |
|                                   |        | VR=15V            | ---     | 20      | ---     |      |
|                                   |        | VR=20V            | 250     | ---     | 10      |      |
|                                   |        | VR=30V            | ---     | 130     | ---     |      |
|                                   |        | VR=40V            | ---     | ---     | 20      |      |
| Capacitance between terminals     | CT     | VR = 0V, f = 1MHz |         |         | 170     | pF   |

## RATING AND CHARACTERISTIC CURVES (B0520-B0540WS)



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