

**SURFACE MOUNT
SCHOTTKY BARRIER DIODE**

**REVERSE VOLTAGE – 20 to 40 Volts
FORWARD CURRENT – 0.5 Ampere**

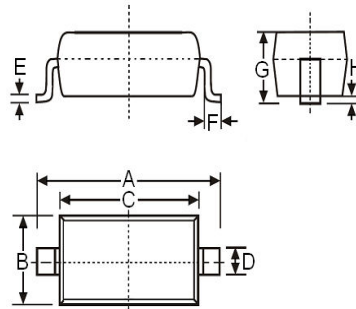
FEATURES

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

MECHANICAL DATA

- Case: SOD-323 Plastic
- Case Material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Moisture Sensitivity: Level 1 per J-STD-020D
- Lead Free in RoHS 2002/95/EC Compliant

SOD-323



| SOD-323 | | |
|--------------------------|------|------|
| Dim. | Min. | Max. |
| A | 2.50 | 2.70 |
| B | 1.20 | 1.40 |
| C | 1.60 | 1.80 |
| D | 0.25 | 0.35 |
| E | 0.08 | 0.15 |
| F | 0.25 | 0.40 |
| G | --- | 1.0 |
| H | 0.00 | 0.10 |
| Dimensions in millimeter | | |

Maximum Ratings & Thermal Characteristics @ T_A = 25°C unless otherwise specified

| Characteristic | Symbol | B0520WS | B0530WS | B0540WS | Units |
|--|---------------------|----------|---------|---------|-------|
| Repetitive Peak Reverse Voltage | V _{RRM} | | | | V |
| Working Peak Reverse Voltage | V _{RWM} | 20 | 30 | 40 | V |
| DC Blocking Voltage | V _R | | | | V |
| RMS Reverse Voltage | V _{R(RMS)} | 14 | 21 | 28 | V |
| Average Rectified Output Current | I _F | 0.5 | | | A |
| Peak Forward Surge Current | I _{FSM} | 5.5 | | | A |
| Power Dissipation | P _D | 200 | | | mW |
| Thermal Resistance Junction to Ambient | R _{θJA} | 625 | | | °C/W |
| Operating Temperature Range | T _J | 150 | | | °C |
| Storage Temperature Range | T _{STG} | -65~+150 | | | °C |
| Voltage Rate of Change | dv/dt | 1000 | | | V/μs |

Electrical Characteristics @ T_A = 25°C unless otherwise specified

| Characteristic | Test Condition | Symbol | B0520WS | B0530WS | B0540WS | Unit |
|---|---------------------------------|-----------------|---------|---------|---------|------|
| Reverse Breakdown Voltage | I _R = 20uA | V _{BR} | -- | -- | 40 | V |
| | I _R = 250uA | | 20 | -- | -- | |
| | I _R = 500uA | | -- | 30 | -- | |
| Maximum Forward Voltage | I _F = 0.1A | V _F | 300 | 360 | -- | mV |
| | I _F = 0.5A | | 385 | 450 | 510 | |
| | I _F = 1.0A | | -- | -- | 620 | |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | V _R = 10V | I _R | 75 | -- | -- | uA |
| | V _R = 15V | | -- | 80 | -- | |
| | V _R = 20V | | 250 | 100 | 10 | |
| | V _R = 30V | | -- | 500 | -- | |
| | V _R = 40V | | -- | -- | 20 | |
| Typical Junction Capacitance | V _R = 1.0V, f = 1MHz | C _T | 170 | | | pF |

RATING AND CHARACTERISTIC CURVES
B0520WS thru B0540WS



FIG.1- FORWARD CURRENT DERATING CURVE

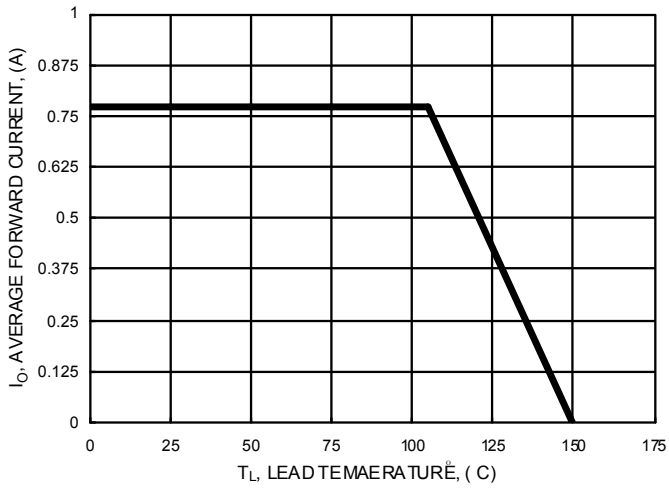


FIG.2- TYPICAL FORWARD CHARACTERISTICS

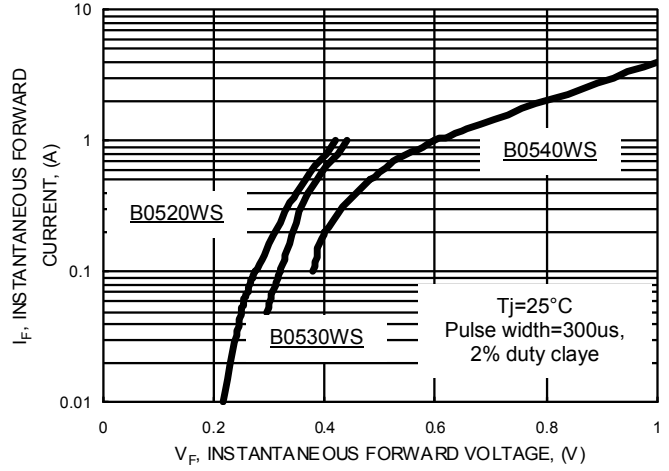
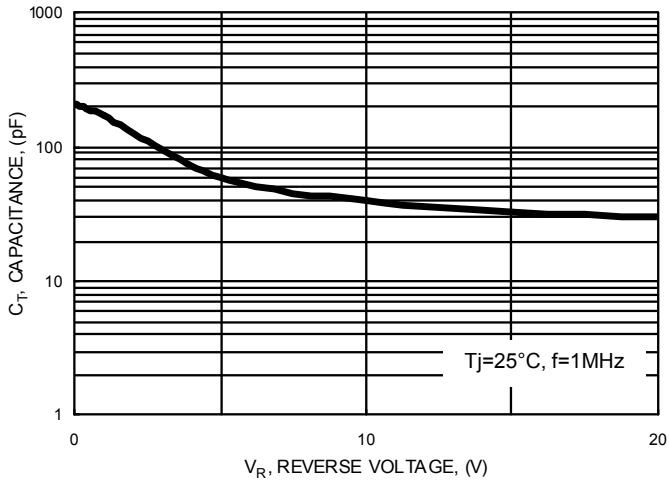


FIG.3- TYPICAL JUNCTION CAPACITANCE



Device Marking :

| Device P/N | Marking | Equivalent Circuit Diagram |
|------------|---------|----------------------------|
| B0520WS | SD | |
| B0530WS | SE | |
| B0540WS | SF | |

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