

Small Signal Product

Low VF SMD Schottky Barrier Diode

FEATURES

- Surface device type mounting
- Moisture sensitivity level 1
- Packing code with suffix "G" means green compound (halogen-free)


SOD-123F


MECHANICAL DATA

- Case: Flat lead SOD-123 small outline plastic package
- Terminal: Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- High temperature soldering guaranteed : 260°C/10s
- Polarity: Indicated by cathode band
- Weight: 8.85 ± 0.5 mg



| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | | | |
|--|-----------------------------------|-------------|---------|-------------|------|
| PARAMETER | SYMBOL | B0520LWF | B0530WF | B0540WF | UNIT |
| Repetitive Peak Reverse Voltage | V _{RRM} | 20 | 30 | 40 | V |
| Reverse Voltage | V _R | 20 | 30 | 40 | V |
| Mean Forward Current @ T _L =100°C (Lead Temperature) | I _O | 500 | | | mA |
| Non-Repetitive Peak Forward Surge Current (Note 1) | I _{FSM} | 5.5 | | | A |
| Thermal Resistance (Junction to Lead) | R _{θJL} | 150 | | 118 | °C/W |
| Thermal Resistance (Junction to Ambient) (Note 2) | R _{θJA} | 340 | 206 | | |
| Junction and Storage Temperature Range | T _J , T _{STG} | -65 to +125 | | -65 to +150 | °C |

Notes: 1. Test Condition: 8.3ms single half sine-wave superimposed on rated load

Notes: 2. Valid provided that electrodes are kept at ambient temperature

| PARAMETER | SYMBOL | B0520LWF | B0530WF | B0540WF | UNIT |
|---|----------------|----------|---------|---------|------|
| Forward Voltage I _F = 0.1 A I _F = 0.5 A I _F = 1.0 A I _F = 0.1 A, Ta = 100°C I _F = 0.5 A, Ta = 100°C I _F = 1.0 A, Ta = 100°C | V _F | 0.300 | 0.375 | - | V |
| | | 0.385 | 0.500 | 0.510 | |
| | | - | - | 0.620 | |
| | | 0.220 | - | - | |
| | | 0.330 | - | 0.460 | |
| | | - | - | 0.610 | |
| Reverse Leakage Current V _R = 10V V _R = 20V V _R = 10V, Ta = 100°C V _R = 20V, Ta = 100°C V _R = 15V V _R = 30V V _R = 40V V _R = 40V, Ta = 100°C | I _R | 75 | - | - | μA |
| | | 250 | - | 10 | mA |
| | | 5 | - | - | |
| | | 8 | - | 5 | |
| | | - | 20 | - | μA |
| | | - | 130 | - | |
| | | - | - | 20 | |
| | | - | - | - | 13 |

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RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

Fig. 1 Typical Forward Characteristics

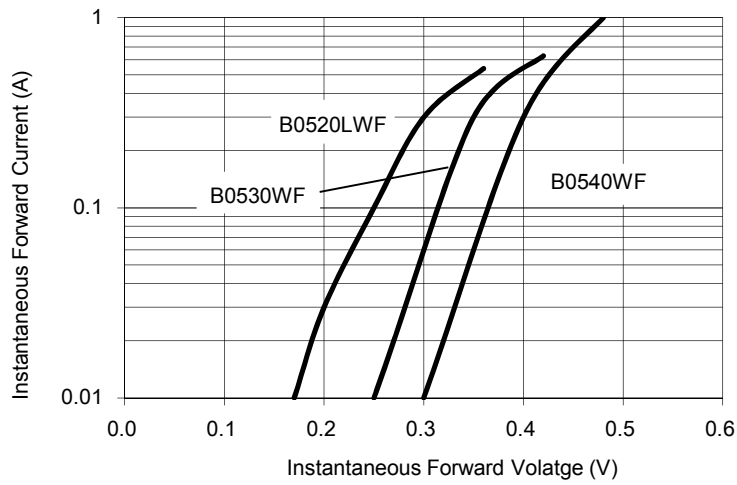


Fig. 2 Forward Current Derating Curve

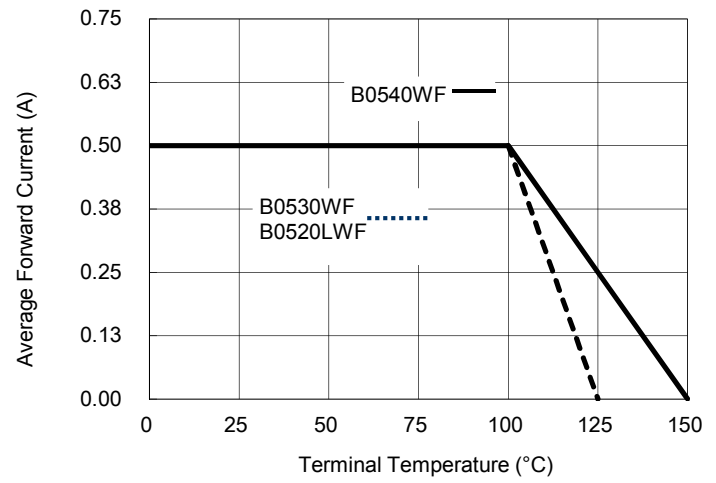
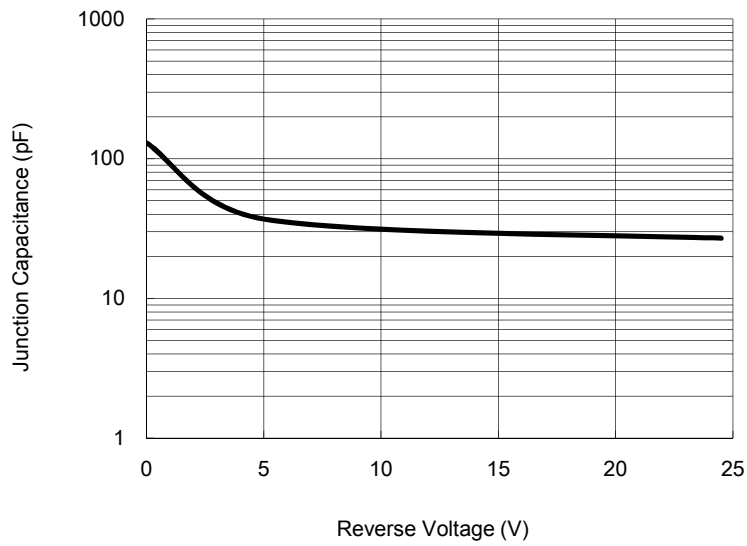


Fig. 3 Typical Junction Capacitance



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| ORDERING INFORMATION | | | | | |
|----------------------|--------------------------|--------------|---------------------|----------|--------------|
| PART NO. | PART NO. SUFFIX (Note 2) | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING |
| B05xxxF (Note 1) | -xx | RH | G | SOD-123F | 3K / 7" Reel |

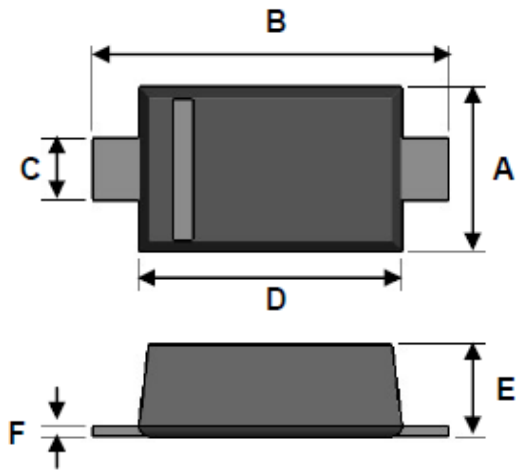
Note 1: "xxx" defines voltage from 20V (B0520LWF) to 40V (B0540WF)

Note 2: Part No. Suffix „-xx “ would be used for special requirement

| EXAMPLE | | | | | |
|----------------|----------|-----------------|--------------|---------------------|---|
| PREFERRED P/N | PART NO. | PART NO. SUFFIX | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
| B0540WF RH | B0540WF | | RH | | Multiple manufacture source |
| B0540WF RHG | B0540WF | | RH | G | Multiple manufacture source Green compound |
| B0540WF-B0 RHG | B0540WF | -B0 | RH | G | Define manufacture source Green compound |

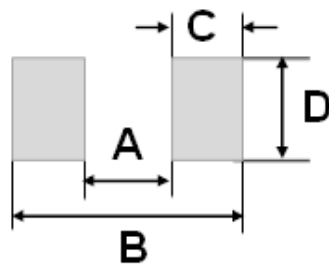
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PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 1.50 | 1.70 | 0.059 | 0.067 |
| B | 3.30 | 3.90 | 0.130 | 0.154 |
| C | 0.50 | 0.70 | 0.020 | 0.028 |
| D | 2.50 | 2.70 | 0.098 | 0.106 |
| E | 0.80 | 1.15 | 0.031 | 0.045 |
| F | 0.05 | 0.20 | 0.002 | 0.008 |

SUGGEST PAD LAYOUT



| DIM. | Unit (mm) | Unit (inch) |
|------|-----------|-------------|
| | Typ. | Typ. |
| A | 2.36 | 0.093 |
| B | 4.19 | 0.165 |
| C | 0.91 | 0.036 |
| D | 1.22 | 0.048 |

MARKING

| Part No. | Marking |
|----------|---------|
| B0520LWF | SD |
| B0530WF | SE |
| B0540WF | SQ |

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