

SCHOTTKY BARRIER RECTIFIERS

FEATURES

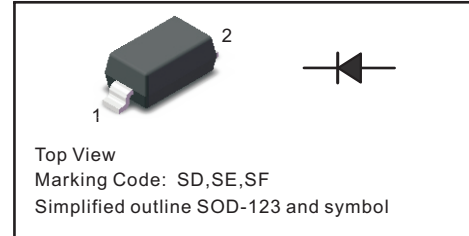
- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance
- Also Available in Lead Free Version

MECHANICAL DATA

- Case: SOD-123
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 16mg 0.00056oz

PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1 | Cathode |
| 2 | Anode |



Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

| Parameter | Symbols | B0520W | B0530W | B0540W | Units |
|---|-----------------|------------|--------|--------|-------|
| Peak Repetitive Reverse Voltage | V_{RRM} | 20 | 30 | 40 | V |
| RMS reverse voltage reverse voltage (DC) | V_{RMS} | 14 | 21 | 28 | V |
| Maximum DC Blocking Voltage | V_{DC} | 20 | 30 | 40 | V |
| Maximum Average Forward Current at Ta=25°C | I_O | 0.5 | | | A |
| Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 5.5 | | | A |
| Maximum Instantaneous Forward Voltage | $I_F=0.1A$ | 0.330 | 0.375 | — | V |
| | $I_F=0.5A$ | 0.390 | 0.430 | 0.510 | |
| | $I_F=1A$ | — | — | 0.620 | |
| Reverse current | $V_R=10V$ | 75 | — | — | uA |
| | $V_R=15V$ | — | 20 | — | |
| | $V_R=20V$ | 250 | — | 10 | |
| | $V_R=30V$ | — | 130 | — | |
| | $V_R=40V$ | — | — | 20 | |
| Thermal Resistance, Junction to Ambient Air | $R_{\theta JA}$ | 200 | | | °C/W |
| Junction temperature | T_j | -55 ~ +125 | | | V |
| Storage temperature | T_{stg} | -55 ~ +150 | | | V |

Fig.1 Forward Current Derating Curve

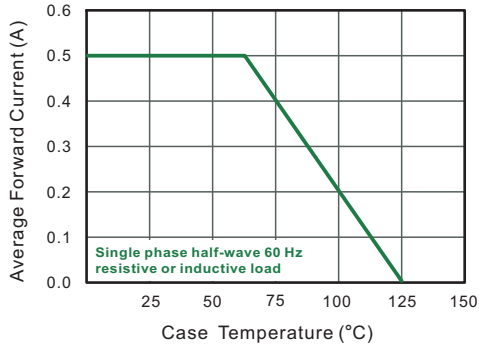


Fig.2 Typical Reverse Characteristics

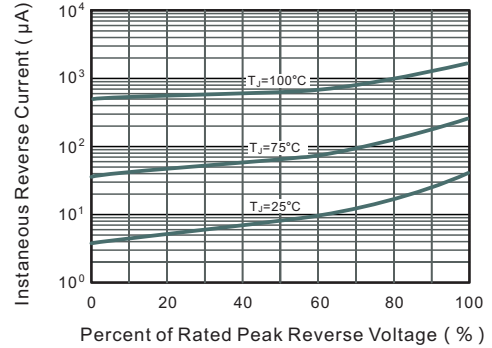


Fig.3 TYPICAL FORWARD VOLTAGE

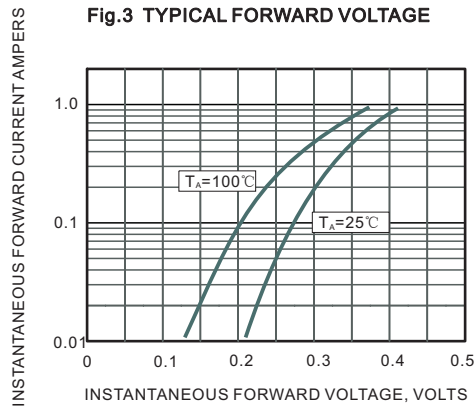


Fig.4 Typical Junction Capacitance

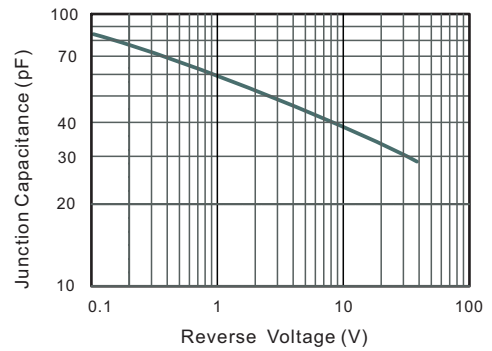
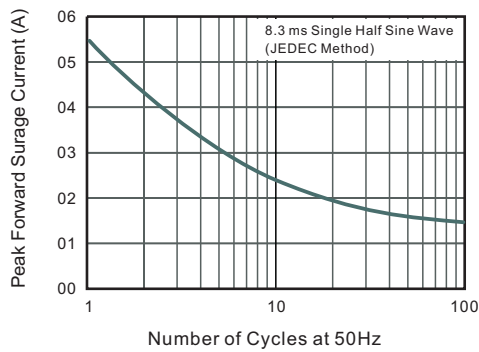


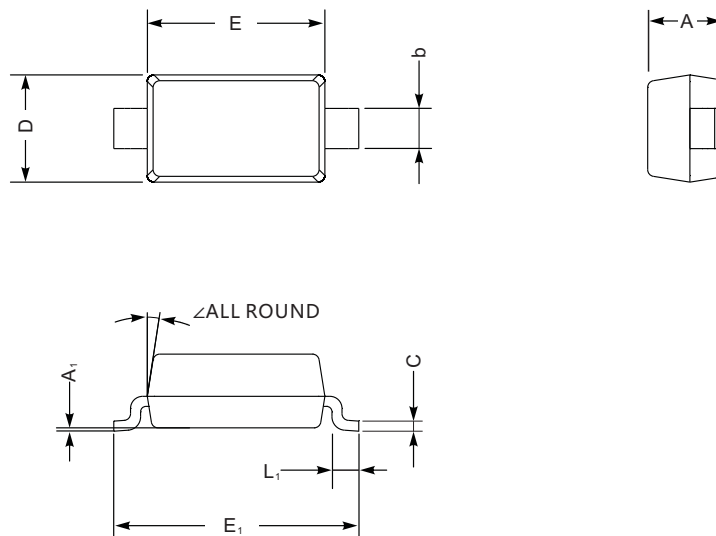
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

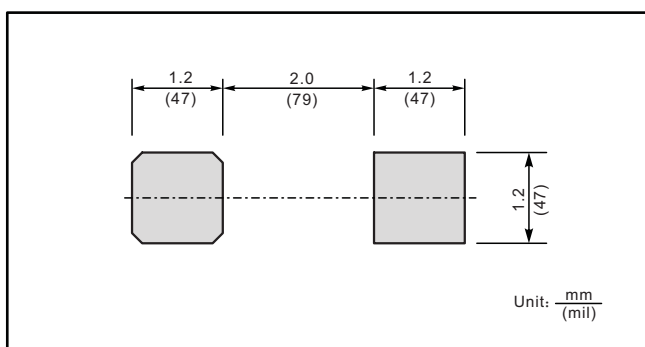
SOD-123



SOD-123 mechanical data

| UNIT | | A | C | D | E | E ₁ | L ₁ | b | A ₁ | ∠ |
|------|-----|-----|------|-----|-----|----------------|----------------|-----|----------------|----|
| mm | max | 1.3 | 0.22 | 1.8 | 2.8 | 3.9 | 0.45 | 0.7 | 0.2 | 9° |
| | min | 0.9 | 0.09 | 1.5 | 2.5 | 3.6 | 0.25 | 0.5 | — | |
| mil | max | 51 | 8.7 | 71 | 110 | 154 | 18 | 28 | 8 | |
| | min | 35 | 3.5 | 59 | 98 | 142 | 10 | 20 | — | |

The recommended mounting pad size



Marking

| Type number | Marking code |
|-------------|--------------|
| B0520W | SD |
| B0530W | SE |
| B0540W | SF |

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