

Small Signal Product

Surface Mount, Switching Schottky Barrier Diode

FEATURES

- Low forward voltage drop
- Surface mount device type
- Moisture sensitivity level (MSL): 1
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21


SOD-123


MECHANICAL DATA

- Case: Bend lead SOD-123 small outline plastic package
- Terminal: Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteee
- High temperature soldering guaranteed : 260°C/10s
- Polarity: Indicated by cathode band
- Weight: 0.01 g (approximately)



| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted) | | | | | |
|--|-----------------|--------------------|--------|------------------|------|
| PARAMETER | SYMBOL | BAT42W | BAT43W | UNIT | |
| Repetitive Peak Reverse Voltage | V_{RRM} | 30 | | V | |
| Working Peak Reverse Voltage | V_{RWM} | | | | |
| DC Blocking Voltage | V_R | | | | |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 21 | | V | |
| Forward Continue Current (Note 1) | I_{FM} | 200 | | mA | |
| Repetitive Peak Forward Current @ $t < 1.0\text{s}$ | I_{FM} | 500 | | mA | |
| Non-Repetitive Peak Forward Surge Current @ $t < 1.0\text{ms}$ | I_{FSM} | 4 | | A | |
| Repetitive Peak Forward Surge Current | I_{FRM} | 500 | | mA | |
| Power Dissipation (Note 1) | P_d | 200 | | mW | |
| Maximum Forward Voltage | V_F | $I_F=200\text{mA}$ | 1.0 | V | |
| | | $I_F=2\text{mA}$ | - | | 0.33 |
| | | $I_F=10\text{mA}$ | 0.40 | | - |
| | | $I_F=15\text{mA}$ | - | | 0.45 |
| | | $I_F=50\text{mA}$ | 0.65 | | - |
| Peak Reverse Current @ $V_R=25\text{V}$ & $T_J=25^\circ\text{C}$ | I_R | 500 | | nA | |
| Junction Capacitance $V_R=1\text{V}$, $f=1.0\text{MHz}$ | C_J | 10 | | pF | |
| Reverse Recovery Time (Note 2) | t_{rr} | 5 | | ns | |
| Thermal Resistance Junction to Ambient (Note 1) | $R_{\theta JA}$ | 625 | | $^\circ\text{C}$ | |
| Operating Temperature Range | T_J | -55 to +125 | | $^\circ\text{C}$ | |
| Storage Temperature Range | T_{STG} | -55 to +125 | | $^\circ\text{C}$ | |

Notes: 1. Valid provided that terminals are kept at ambient temperature.

 Notes: 2. Test conditions : $I_F=10\text{mA}$, $I_R=10\text{mA}$, $R_L=100\Omega$, $I_{RR}=1\text{mA}$

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RATINGS AND CHARACTERISTICS CURVES

($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 Typical Forward Characteristics

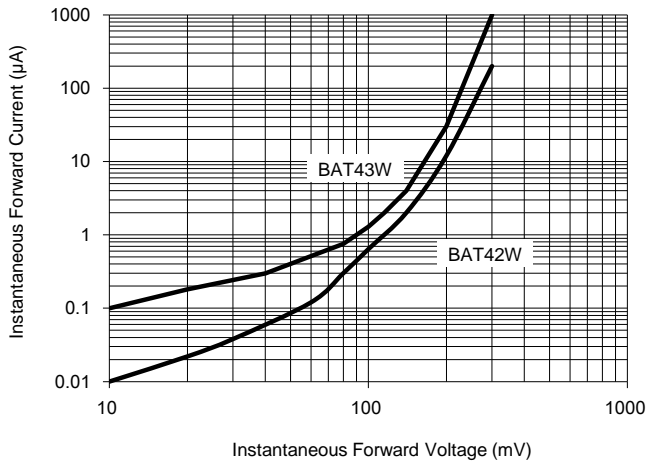


Fig. 2 Typical Forward Characteristics

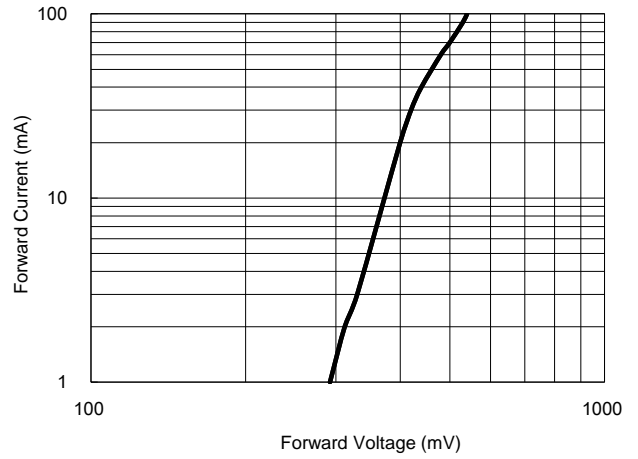


Fig. 3 Typical Reverse Characteristics

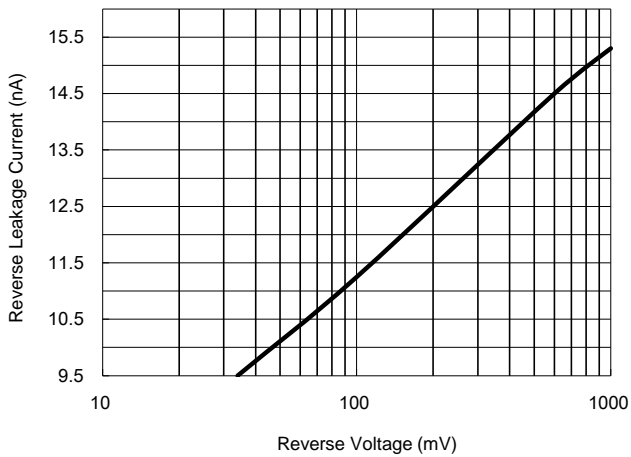
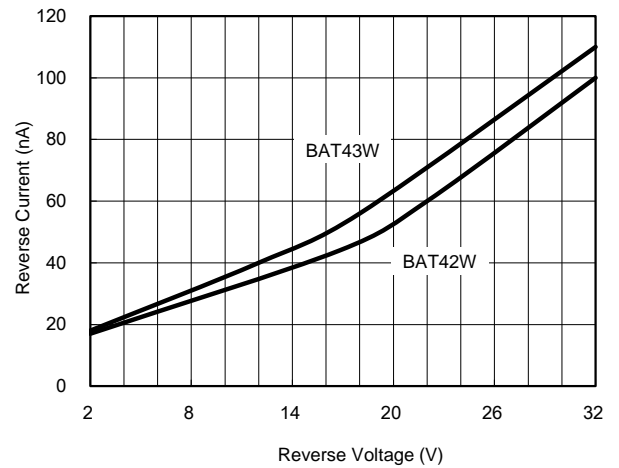


Fig. 4 Typical Reverse Characteristics



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| ORDERING INFORMATION | | | | |
|-----------------------------|---------------------|----------------------------|----------------|----------------|
| PART NO. | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING |
| BAT4xW (Note 1&2) | RH | G | SOD-123 | 3K / 7" Reel |

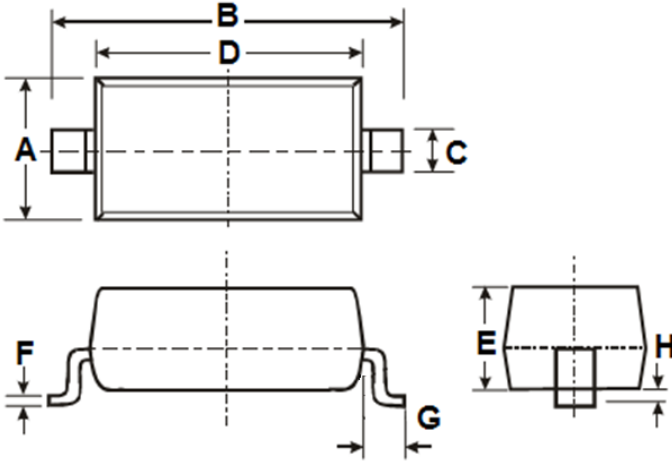
Note 1: "x" is Device Code from "2" - "3".

Note 2: Whole series with green compound

| EXAMPLE | | | | |
|--------------------|-----------------|---------------------|----------------------------|--------------------|
| EXAMPLE P/N | PART NO. | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
| BAT42W RHG | BAT42W | RH | G | Green compound |

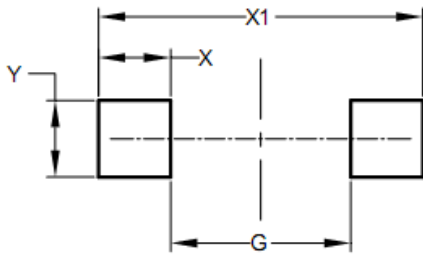
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PACKAGE OUTLINE DIMENSIONS
SOD-123



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 1.40 | 1.80 | 0.055 | 0.071 |
| B | 3.55 | 3.85 | 0.140 | 0.152 |
| C | 0.45 | 0.70 | 0.018 | 0.028 |
| D | 2.55 | 2.85 | 0.100 | 0.112 |
| E | 0.95 | 1.35 | 0.037 | 0.053 |
| F | 0.05 | 0.15 | 0.002 | 0.006 |
| G | 0.50 REF | | 0.02 REF | |
| H | - | 0.10 | - | 0.004 |

SUGGEST PAD LAYOUT



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|-----|-------------|-----|
| | Min | Min | Min | Min |
| G | 2.25 | | 0.089 | |
| X | 0.90 | | 0.035 | |
| X1 | 4.05 | | 0.159 | |
| Y | 0.95 | | 0.037 | |

MARKING

| Part No. | Marking |
|----------|---------|
| BAT42W | S7 |
| BAT43W | S8 |

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