

2A, 40V Low Forward Voltage Schottky Rectifier

FEATURES

- Trench MOS schottky barrier diode
- Low forward voltage drop
- Low profile - max body height 0.9 mm
- Moisture sensitivity: level 1, per J-STD-020
- High temperature soldering guaranteed: 260°C/10 seconds
- RoHS compliant
- Halogen-free according to IEC 61249-2-21 definition

SOD-123HS



RoHS
COMPLIANT

HALOGEN
FREE

MECHANICAL DATA

- Case: SOD-123HS
- Case material: molding compound meets UL 94V-0 flammability rating
- Polarity: color band denotes cathode end

TYPICAL APPLICATION

General purpose use in lighting, cellular phone, portable device, power supplies and other consumer applications.

MAXIMUM RATINGS

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

| Parameter | Symbol | Value | Unit |
|--|-------------|-------------|------------------|
| Repetitive Peak Reverse Voltage | V_{RRM} | 40 | V |
| Average Forward Rectified Current | $I_{F(AV)}$ | 2 | A |
| Peak Forward Surge Current (8.3 ms single half sine-wave superimposed on rated load) | I_{FSM} | 25 | A |
| Operating Junction Temperature Range | T_J | -55 to +150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS

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

| Parameter | Test Conditions | Symbol | Value | | Unit |
|------------------------------------|-------------------------|-----------------|-------|------|--------------------|
| | | | Typ. | Max. | |
| Forward Voltage@ $I_F=0.5\text{A}$ | $T_A=25^\circ\text{C}$ | V_F | 0.32 | 0.36 | V |
| | $T_A=125^\circ\text{C}$ | | 0.28 | 0.33 | |
| Forward Voltage@ $I_F=2\text{A}$ | $T_A=25^\circ\text{C}$ | | 0.44 | 0.48 | |
| | $T_A=125^\circ\text{C}$ | | 0.39 | 0.43 | |
| Reverse Current @ V_{RRM} | $T_A=25^\circ\text{C}$ | I_R | 45 | 100 | uA |
| | $T_A=125^\circ\text{C}$ | | 30 | 70 | mA |
| Typical Thermal Resistance | | $R_{\theta JA}$ | 250 | | $^\circ\text{C/W}$ |

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RATINGS AND CHARACTERISTIC CURVES

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FIG.1: Forward Output Current Derating Curve

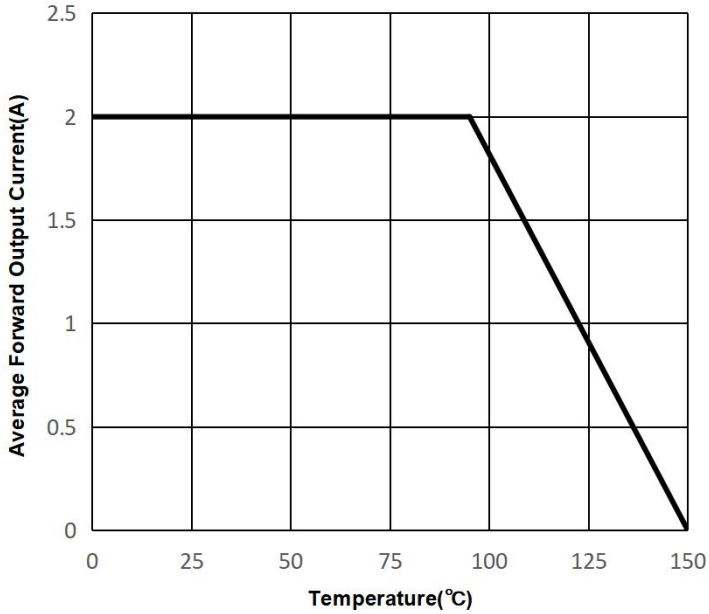


FIG.2: Maximum Non-Repetitive Peak Forward Surge Current

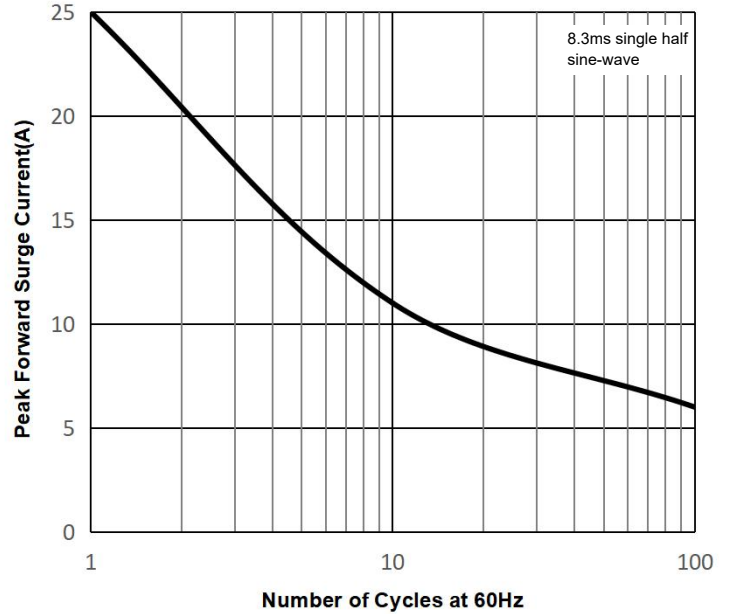


FIG.3: Typical Forward Characteristics

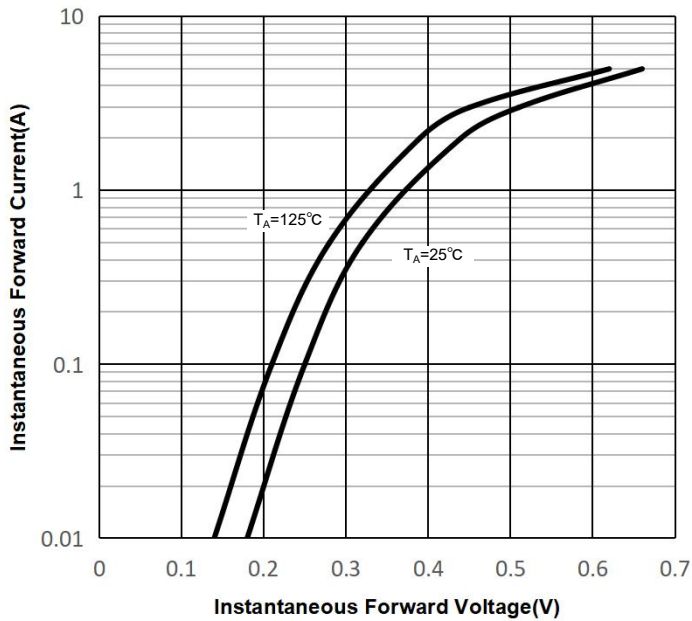
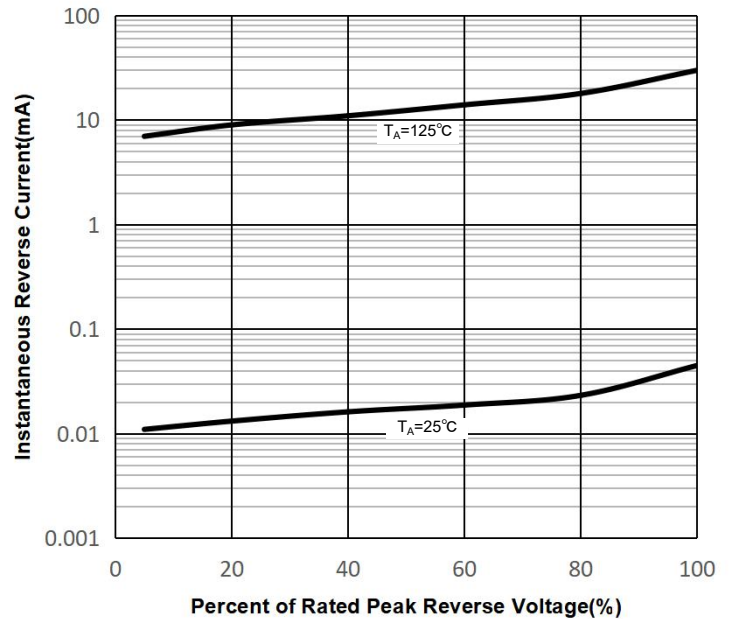
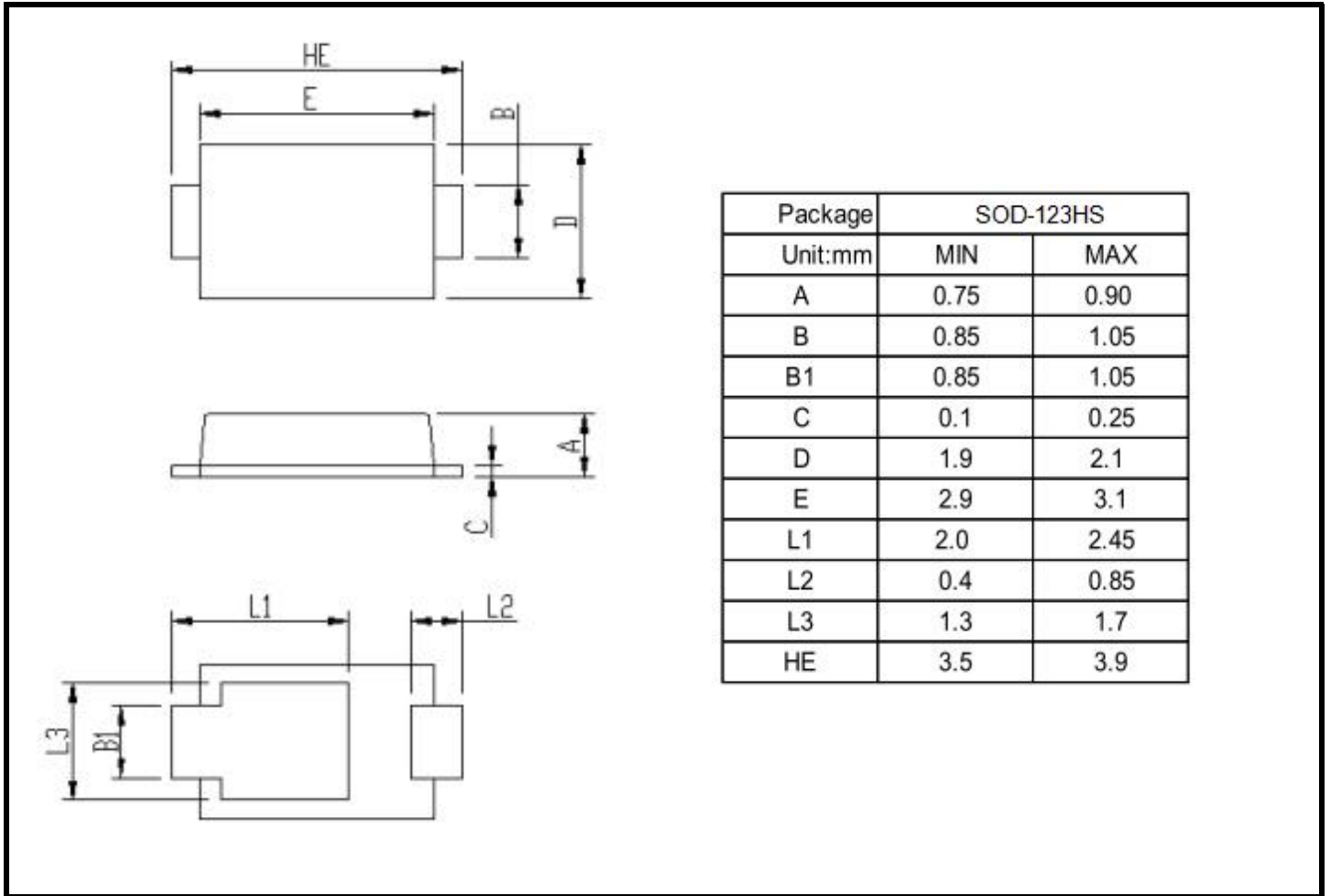


FIG.4: Typical Reverse Characteristics



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PACKAGE OUTLINE DIMENSIONS



PACKING INFORMATION

| Package | Reel(PCS) | Inner Box(PCS) | Carton(PCS) |
|-----------|-----------|----------------|-------------|
| SOD-123HS | 3,000 | 30,000 | 120,000 |