

Schottky Barrier Rectifier

SH22A - SH245A

Features

- Metal silicon junction, majority carrier conduction
- High forward surge current capability
- Low forward voltage drop
- High temperature soldering guaranteed: 260°C @ 10s
- Robust guarding for over voltage protection
- RoHS compliant with Halogen-free



Mechanical Data

- Case: SMA molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Matte tin plated leads; solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes cathode end

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

| Parameter | Symbol | SH22A | SH23A | SH24A | SH245A | Unit |
|---|-------------------|-------|-------|-------|--------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | 20 | 30 | 40 | 45 | V |
| RMS Reverse Voltage | V _{RMS} | 14 | 21 | 28 | 31.5 | V |
| DC Blocking Voltage | V _{DC} | 20 | 30 | 40 | 45 | V |
| Average Forward Output Current | I _{F_AV} | 2.0 | | | | A |
| Peak Forward Surge Current, 8.3ms Single Half Sine wave | I _{FSM} | 50 | | | | A |

Thermal Characteristics

| Parameter | Symbol | SH22A | SH23A | SH24A | SH245A | Unit |
|--------------------------------------|------------------|------------|-------|-------|--------|------|
| Typical Thermal Resistance *1 | R _{θJA} | 70 | | | | °C/W |
| | R _{θJC} | 25 | | | | |
| | R _{θJL} | 30 | | | | |
| Operating Junction Temperature Range | T _J | -55 ~ +150 | | | | °C |
| Storage Temperature Range | T _{STG} | -55 ~ +150 | | | | °C |

Note *1: Device mounted on p.c.b. with 10 mm x 20 mm x 0.1 mm copper pad area

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Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test Conditions | | Typ. | Max. | Unit |
|---|--------|---------------------|-----------------------------|------|------|---------------|
| Instantaneous Forward Voltage ^{*1} | V_F | $I_F = 2.0\text{A}$ | @ $T_A = 25^\circ\text{C}$ | - | 0.55 | V |
| Reverse Current ^{*2} | I_R | Rated V_R | @ $T_J = 25^\circ\text{C}$ | - | 100 | μA |
| | | | @ $T_J = 100^\circ\text{C}$ | - | 10 | mA |

Note^{*1}: Pulse test: 300us pulse width, 1 % duty cycle

Note^{*2}: Pulse test: Pulse width 40ms

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Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

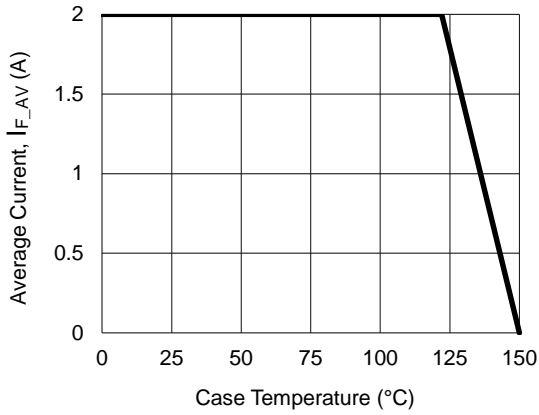


Fig.2 Surge Current Derating Curve

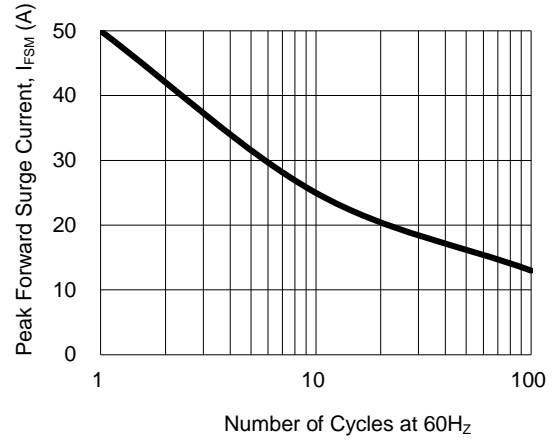


Fig.3 Typical Forward Voltage Characteristics

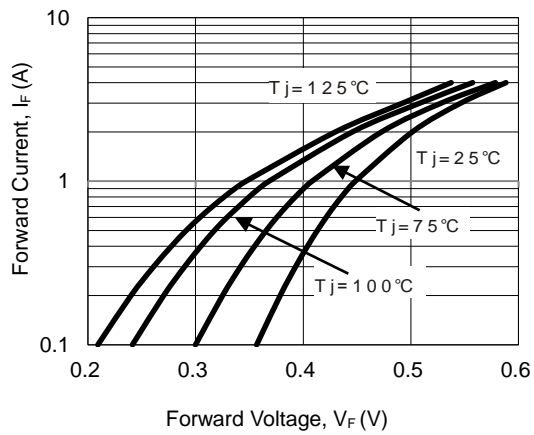
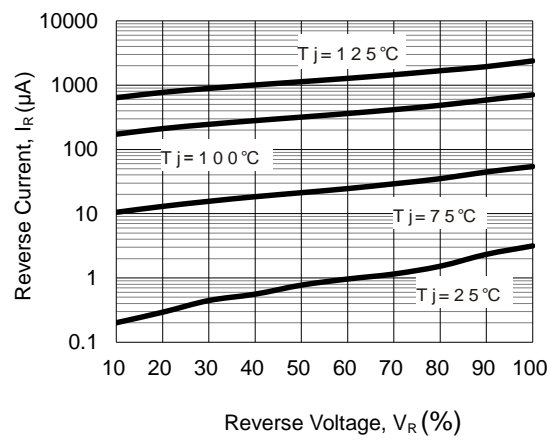


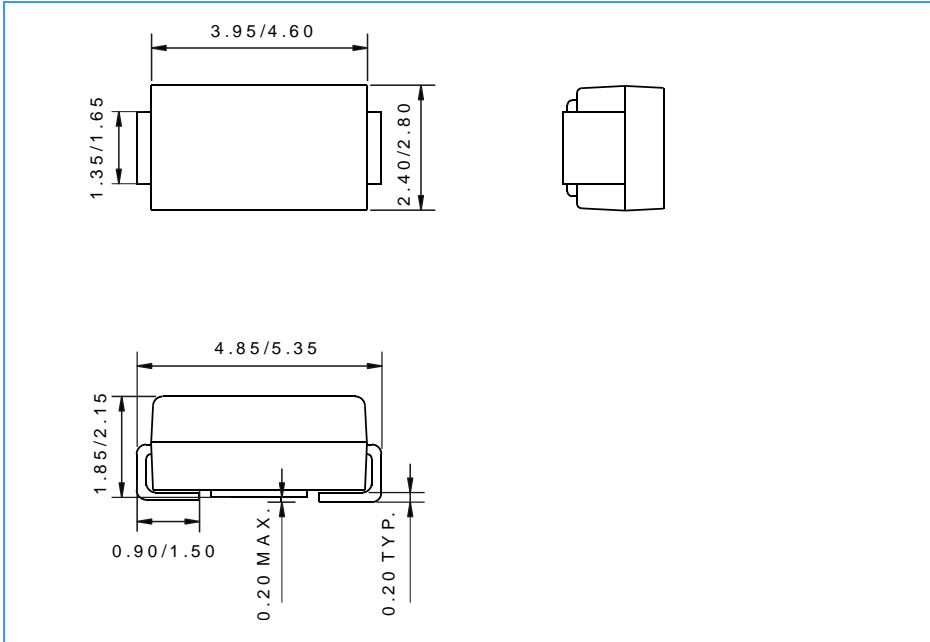
Fig.4 Typical Reverse Characteristics



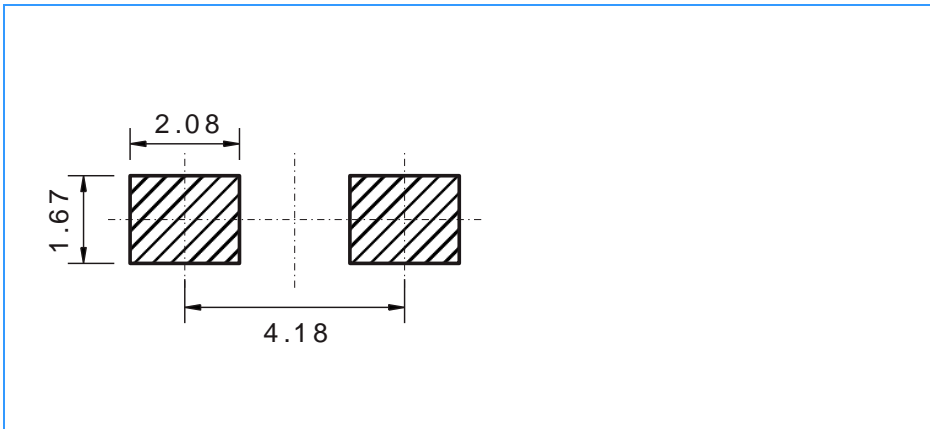
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Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

| Part Number | Marking | Package | Shipping Quantity |
|-------------|---------|---------|--------------------|
| SH22A | SH22A | SMA | 5000 / Tape & Reel |
| SH23A | SH23A | SMA | 5000 / Tape & Reel |
| SH24A | SH24A | SMA | 5000 / Tape & Reel |
| SH245A | SH245A | SMA | 5000 / Tape & Reel |