

Schottky Barrier Rectifier



RoHS
Compliant



Features

- For surface mounted application
- Trench schottky technology
- Low forward voltage drop, high efficiency
- High current capability
- High surge capacity
- Plastic package has UL flammability classification 94V-0
- For use in low voltage, high frequency inverters, free wheeling, switching power supplies, DC-DC converter, and polarity protection applications

Mechanical Data

Case : Molded plastic

Polarity : Indicated by cathode band

Weight : 0.002ounces, 0.053 grams

Maximum Ratings And Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Characteristic | Symbol | Values | Unit | |
|---|------------------|------------------------|------|------|
| Maximum Ratings (T_A = 25 °C unless otherwise noted) | | | | |
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 100 | V | |
| Maximum RMS Voltage | V _{RMS} | 70 | | |
| Maximum DC Blocking Voltage | V _{DC} | 100 | | |
| Maximum Average Forward Rectified Current | I(AV) | 5 | A | |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load | I _{FSM} | 50 | | |
| Peak repetitive reverse current at t _p = 2μs, 1kHz | I _{RRM} | 1 | | |
| Operating Temperature Range | T _J | -55 to +150 | °C | |
| Storage Temperature Range | T _{STG} | -55 to +175 | | |
| Electrical Characteristics (T_A = 25 °C unless otherwise noted) | | | | |
| Parameter / Conditions | Symbol | Typ | Max | Unit |
| Breakdown voltage per diode | V _{BR} | 110 (minimum) | - | V |
| Forward Voltage (Note1) I _F =2.5A @T _J =25°C I _F =2.5A @T _J =125°C I _F =5A @T _J =25°C I _F =5A @T _J =125°C | V _F | 0.51 | 0.55 | |
| | | 0.45 | 0.48 | |
| | | 0.61 | 0.65 | |
| | | 0.57 | 0.6 | |
| Maximum DC Reverse Current at Rated DC Bolcking Voltage | I _R | @T _J =25°C | 40 | μA |
| | | @T _J =125°C | 20 | mA |
| Typical Junction Capacitance (Note 2) | C _J | 322 | | pF |

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| Thermal Characteristics (T _A = 25 °C unless otherwise noted) | | | |
|---|------------------|--------|------|
| Parameter | Symbol | Values | Unit |
| Thermal Resistance Per Diode (Note3) | R _{θJL} | 25 | °C/W |

Notes:

1. 300µs pulse width, 2% duty cycle.
2. Measured at 1MHz and applied reverse voltage of 4V DC.
3. Thermal resistance junction to lead.

Rating and Characteristic Curves

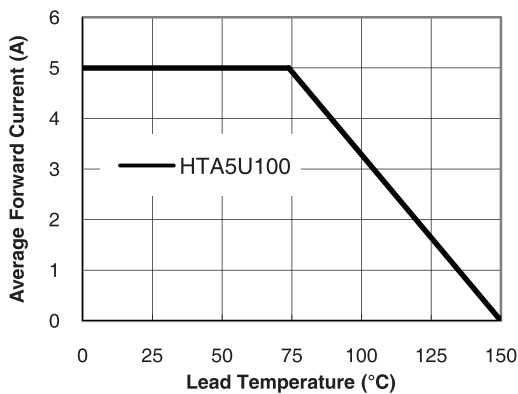


Figure 1. Forward Current Derating Curve

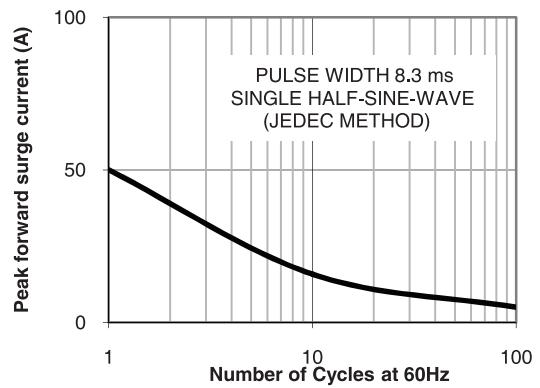


Figure 2. Maximum NON-Repetitive

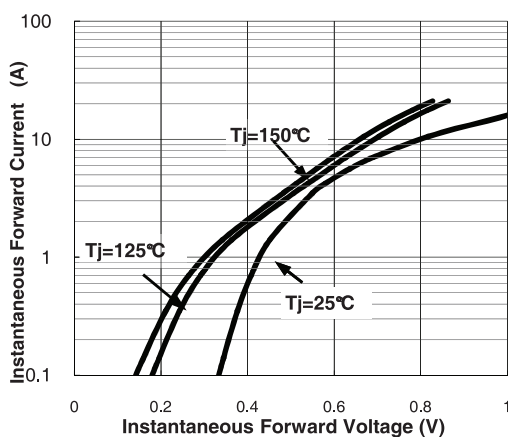


Figure 3. Typical Instantaneous Forward Characteristics Per Leg

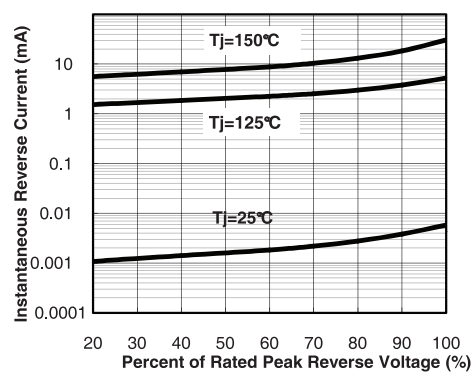


Figure 4. Typical Reverse Characteristics

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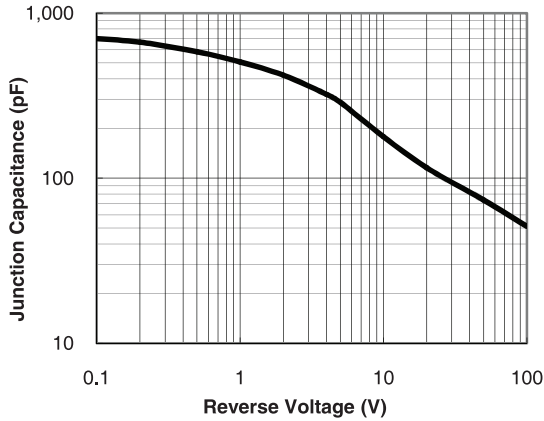


Figure 5. Typical Junction Capacitance

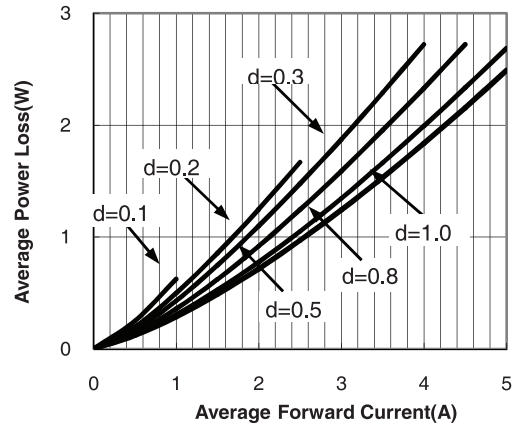
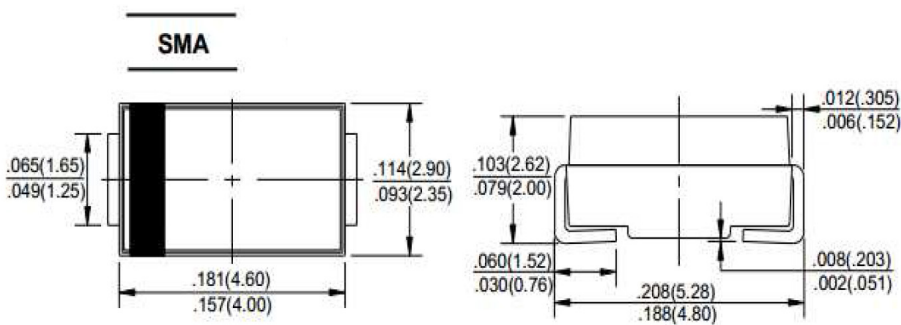


Figure 6. Forward Power Loss Characteristics

Dimension:



Dimensions : Inches (Millimetres)

Part Number Table

| Description | Part Number |
|----------------------------|-------------|
| Schottky Barrier Rectifier | HTA5U100 |

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