# SS26

# Surface Mount Schottky Power Rectifier

## SMB Power Surface Mount Package

. . . employing the Schottky Barrier principle in a metal−to−silicon power rectifier. Features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency switching power supplies; free wheeling diodes and polarity protection diodes.

**Features**

- Compact Package with J−Bend Leads Ideal for Automated Handling
- Highly Stable Oxide Passivated Junction
- Guardring for Overvoltage Protection
- Low Forward Voltage Drop
- Pb−Free Package is Available

**Mechanical Characteristics:**

- Case: Molded Epoxy
- Epoxy Meets UL 94, V−O at 0.125 in
- Weight: 95 mg (approximately)
- Cathode Polarity Band
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Available in 12 mm Tape, 2500 Units per 13″ Reel, Add “T3” Suffix to Part Number
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- ESD Ratings: Human Body Model = 3B
  Machine Model = C
- Marking: SS26

**MAXIMUM RATINGS**

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 60 | V |
| Average Rectified Forward Current (At Rated $V_R$, $T_L$ = 95°C) | $I_O$ | 2.0 | A |
| Non−Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz) | $I_{FSM}$ | 40 | A |
| Storage/Operating Case Temperature | $T_{stg}$, $T_C$ | −55 to +150 | °C |
| Operating Junction Temperature | $T_J$ | −55 to +150 | °C |
| Voltage Rate of Change (Rated $V_R$, $T_J$ = 25°C) | dv/dt | 10,000 | V/μs |

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

ON Semiconductor®

http://onsemi.com

**SCHOTTKY BARRIER RECTIFIER 2.0 AMPERES 60 VOLTS**

**SMB**
**CASE 403A**
**PLASTIC**

**MARKING DIAGRAM**


SS26 = Device Code

**ORDERING INFORMATION**

| Device | Package | Shipping† |
|---|---|---|
| SS26T3 | SMB | 2500 / Tape & Reel |
| SS26T3G | SMB (Pb−Free) | 2500 / Tape & Reel |

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

## THERMAL CHARACTERISTICS

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Thermal Resistance – Junction–to–Lead (Note 1)<br>Thermal Resistance – Junction–to–Ambient (Note 2) | $R_{\theta JL}$<br>$R_{\theta JA}$ | 24<br>80 | °C/W |

1. Mounted with minimum recommended pad size, PC Board FR4.
2. 1 inch square pad size (1 x 0.5 inch for each lead) on FR4 board.

## ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | Value | | Unit |
|---|---|---|---|---|
| | | $T_J$ = 25°C | $T_J$ = 125°C | |
| Maximum Instantaneous Forward Voltage (Note 3)<br>($i_F$ = 1.0 A)<br>($i_F$ = 2.0 A) | $v_F$ | 0.51<br>0.63 | 0.475<br>0.55 | V |
| Maximum Instantaneous Reverse Current (Note 3)<br>($V_R$ = 60 V) | $I_R$ | 0.2 | 10 | mA |

3. Pulse Test: Pulse Width ≤ 250 μs, Duty Cycle ≤ 2.0%.

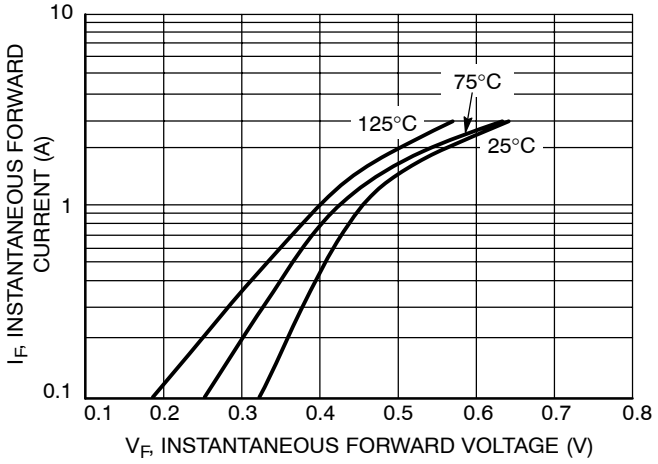



**Figure 1. Typical Forward Voltage**

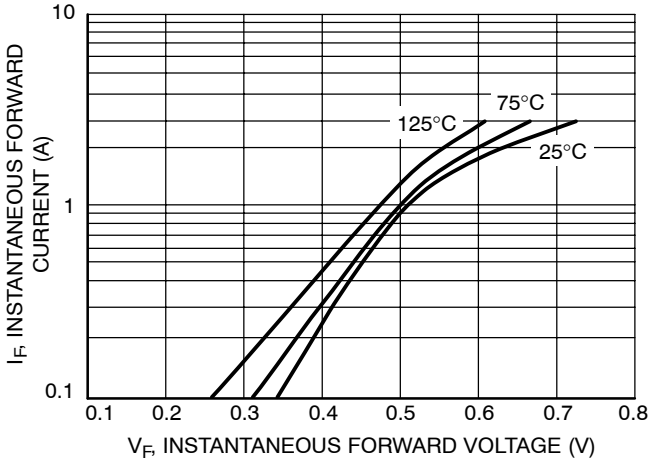



**Figure 2. Maximum Forward Voltage**

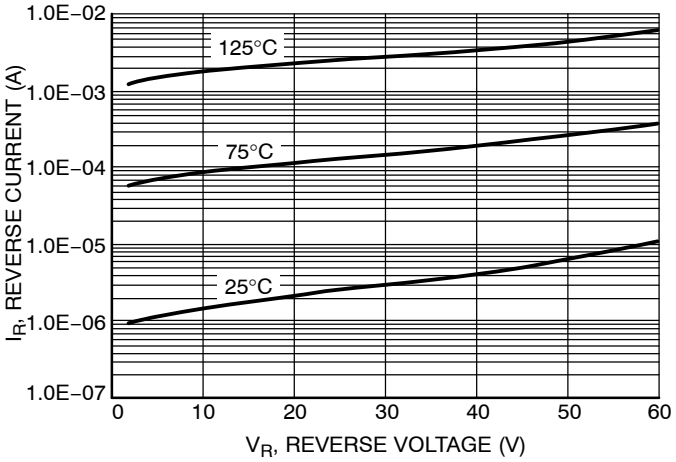



**Figure 3. Typical Reverse Current**

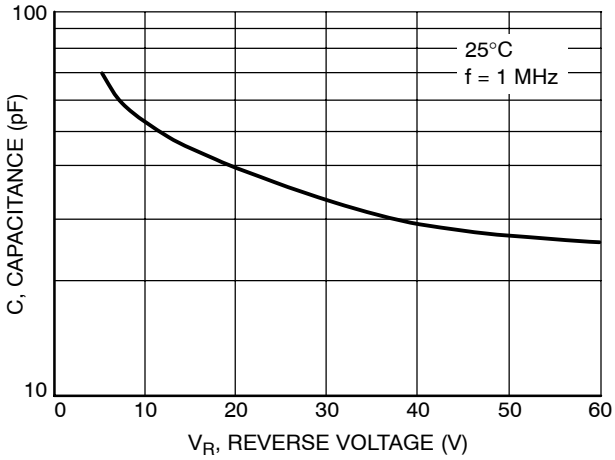



**Figure 4. Typical Capacitance**

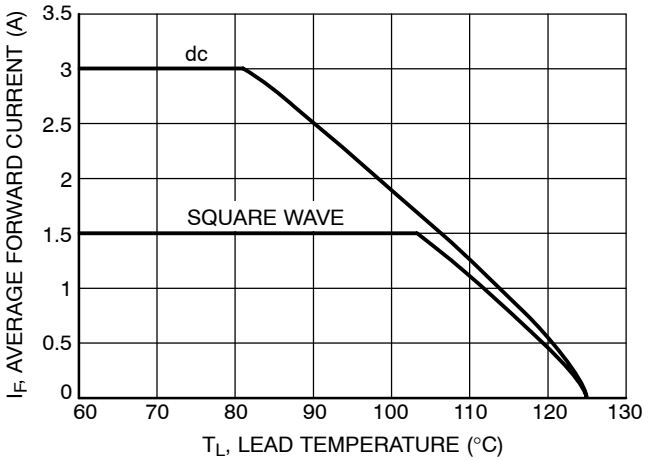



**Figure 5. Current Derating – Junction to Lead**

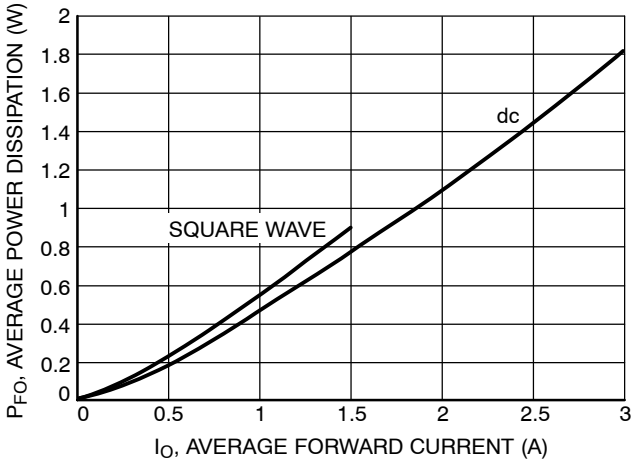



**Figure 6. Forward Power Dissipation**

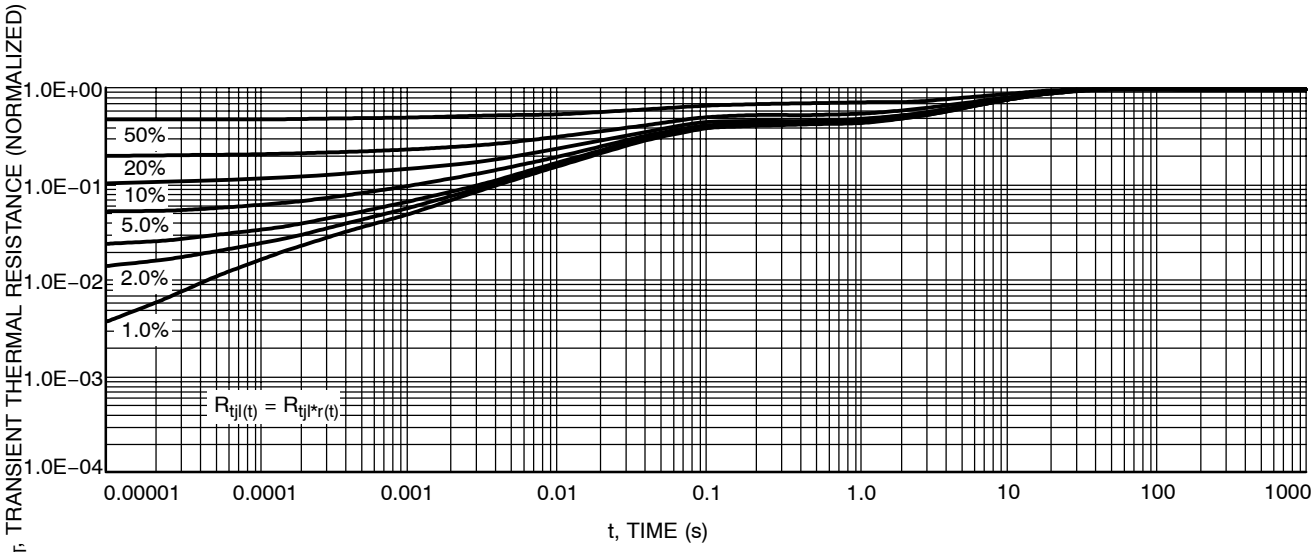



**Figure 7. Thermal Response – Junction to Case**

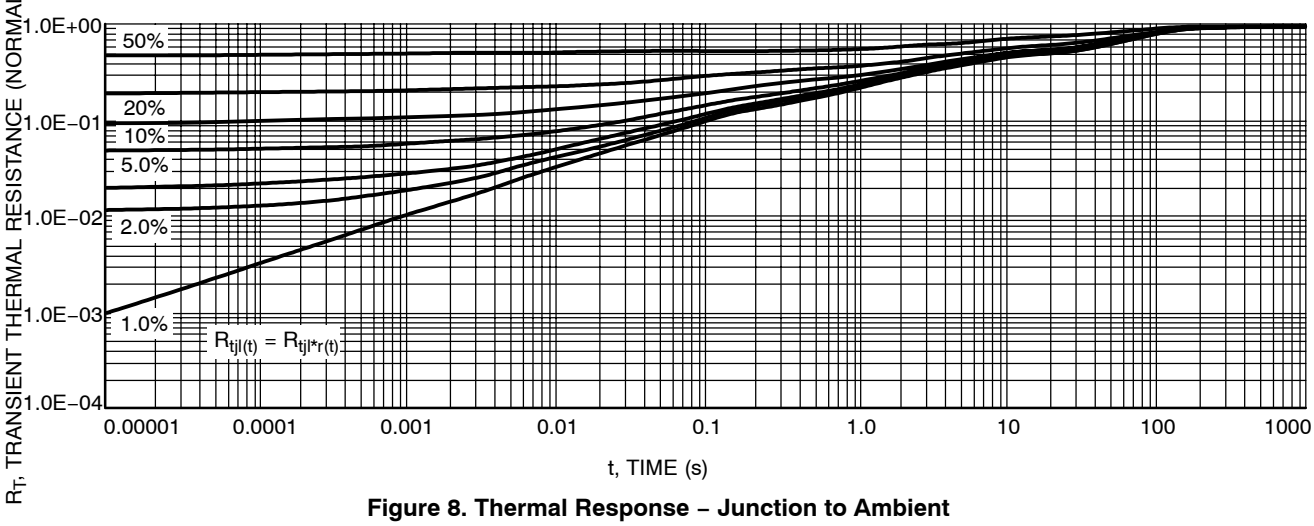
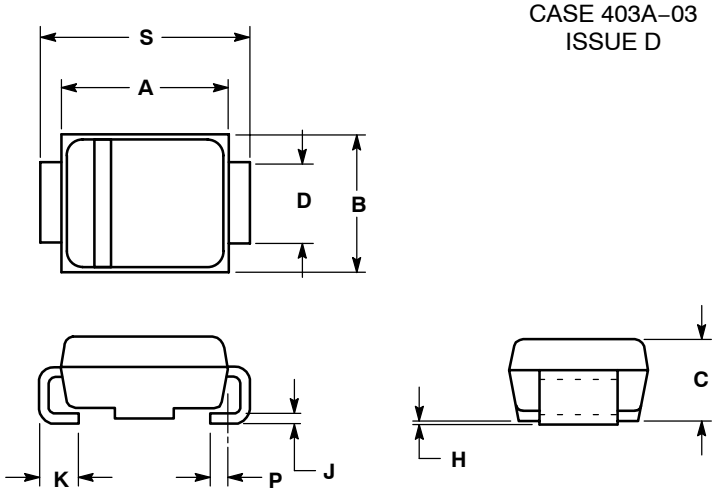



**Figure 8. Thermal Response – Junction to Ambient**

## PACKAGE DIMENSIONS

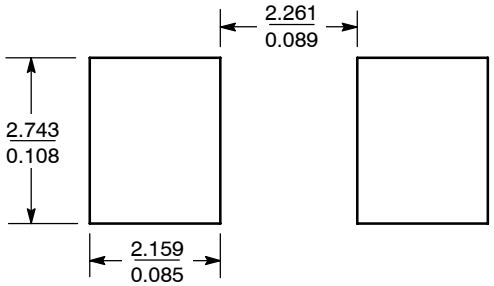
**SMB**
PLASTIC PACKAGE
CASE 403A−03
ISSUE D




NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. D DIMENSION SHALL BE MEASURED WITHIN DIMENSION P.

| | INCHES | | MILLIMETERS | |
|---|---|---|---|---|
| DIM | MIN | MAX | MIN | MAX |
| A | 0.160 | 0.180 | 4.06 | 4.57 |
| B | 0.130 | 0.150 | 3.30 | 3.81 |
| C | 0.075 | 0.095 | 1.90 | 2.41 |
| D | 0.077 | 0.083 | 1.96 | 2.11 |
| H | 0.0020 | 0.0060 | 0.051 | 0.152 |
| J | 0.006 | 0.012 | 0.15 | 0.30 |
| K | 0.030 | 0.050 | 0.76 | 1.27 |
| P | 0.020 REF | | 0.51 REF | |
| S | 0.205 | 0.220 | 5.21 | 5.59 |

## SOLDERING FOOTPRINT*




SCALE 8:1 $\left(\frac{\text{mm}}{\text{inches}}\right)$

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.



**PUBLICATION ORDERING INFORMATION**

**LITERATURE FULFILLMENT**:
Literature Distribution Center for ON Semiconductor
P.O. Box 61312, Phoenix, Arizona 85082−1312 USA
**Phone**: 480−829−7710 or 800−344−3860 Toll Free USA/Canada
**Fax**: 480−829−7709 or 800−344−3867 Toll Free USA/Canada
**Email**: orderlit@onsemi.com

**N. American Technical Support**: 800−282−9855 Toll Free USA/Canada

**Japan**: ON Semiconductor, Japan Customer Focus Center
2−9−1 Kamimeguro, Meguro−ku, Tokyo, Japan 153−0051
**Phone**: 81−3−5773−3850

**ON Semiconductor Website**: http://onsemi.com

**Order Literature**: http://www.onsemi.com/litorder

For additional information, please contact your local Sales Representative.