# Surface Mount Schottky Power Rectifier

## SMB Power Surface Mount Package

# SS26T3G, NRVBSS26T3G, NRVBSS26NT3G, SRVBSS26NT3G

. . . 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
- NRVB Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC−Q101 Qualified and PPAP Capable*
- These are Pb−Free Devices

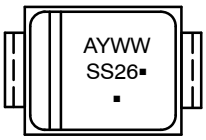
### Mechanical Characteristics:

- 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

**SCHOTTKY BARRIER RECTIFIER 2.0 AMPERES 60 VOLTS**

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

### MARKING DIAGRAM




| | |
|---|---|
| SS26 | = Specific Device Code |
| A | = Assembly Location** |
| Y | = Year |
| WW | = Work Week |
| ▪ | = Pb−Free Package |

(Note: Microdot may be in either location)

**The Assembly Location code (A) is front side optional. In cases where the Assembly Location is stamped in the package bottom (molding ejecter pin), the front side assembly code may be blank.

### ORDERING INFORMATION

| Device | Package | Shipping† |
|---|---|---|
| SS26T3G | SMB (Pb−Free) | 2500 / Tape & Reel |
| NRVBSS26T3G* | SMB (Pb−Free) | 2500 / Tape & Reel |
| NRVBSS26NT3G* | SMB (Pb−Free) | 2500 / Tape & Reel |
| SRVBSS26NT3G* | 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.

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## 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<br>(At Rated $V_R$, $T_L$ = 95°C) | $I_O$ | 2.0 | A |
| Non−Repetitive Peak Surge Current<br>(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<br>(Rated $V_R$, $T_J$ = 25°C) | dv/dt | 10,000 | V/μs |

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

## 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 | 20 | mA |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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

## TYPICAL CHARACTERISTICS

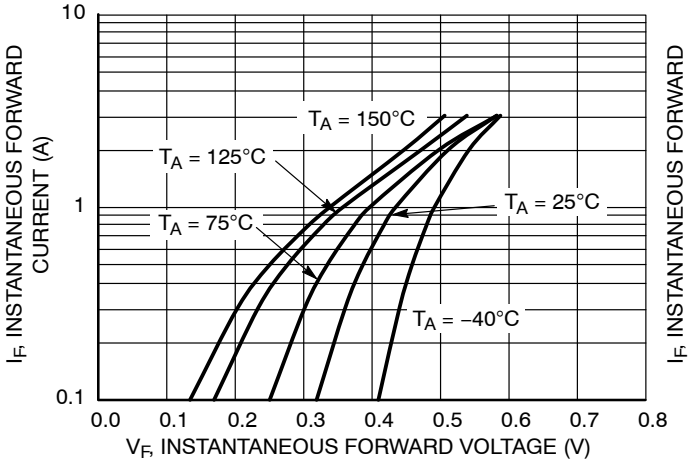


**Figure 1. Typical Forward Voltage**

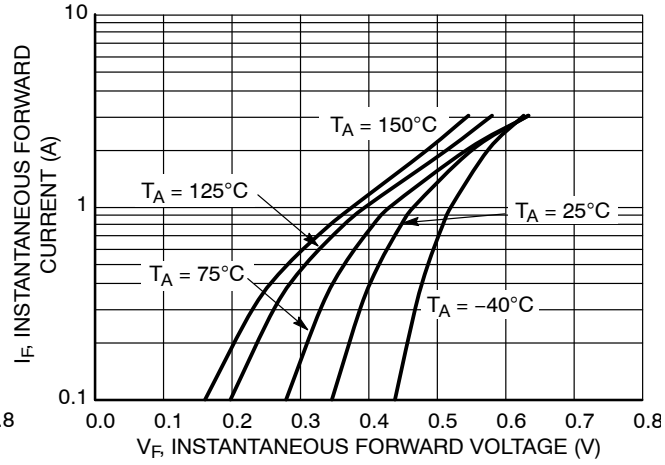


**Figure 2. Maximum Forward Voltage**

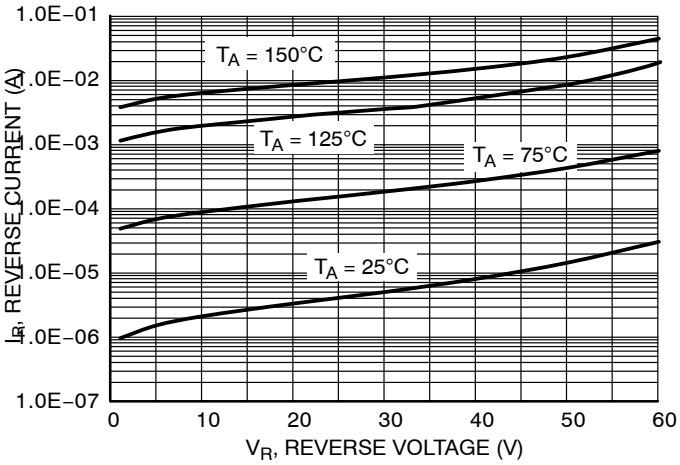


**Figure 3. Typical Reverse Current**

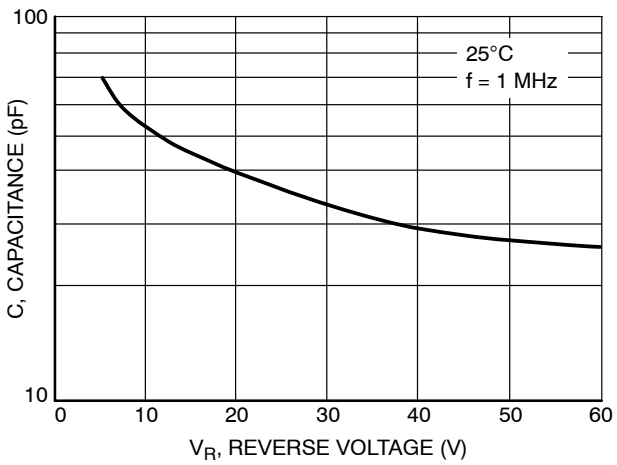


**Figure 4. Typical Capacitance**

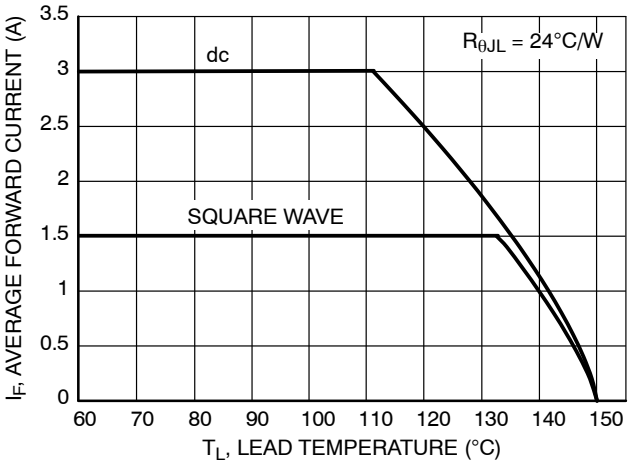


**Figure 5. Current Derating − Junction to Lead**

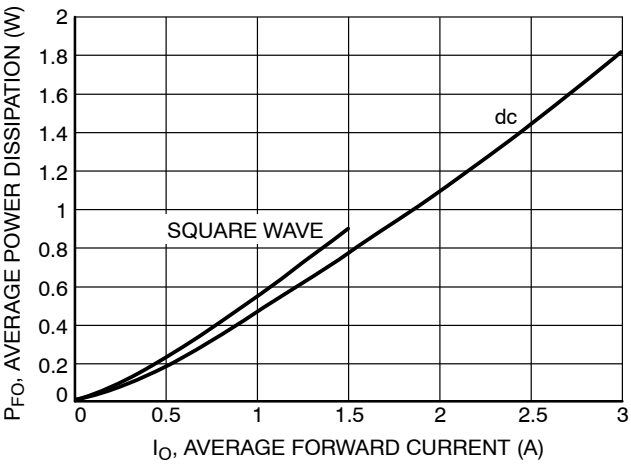


**Figure 6. Forward Power Dissipation**

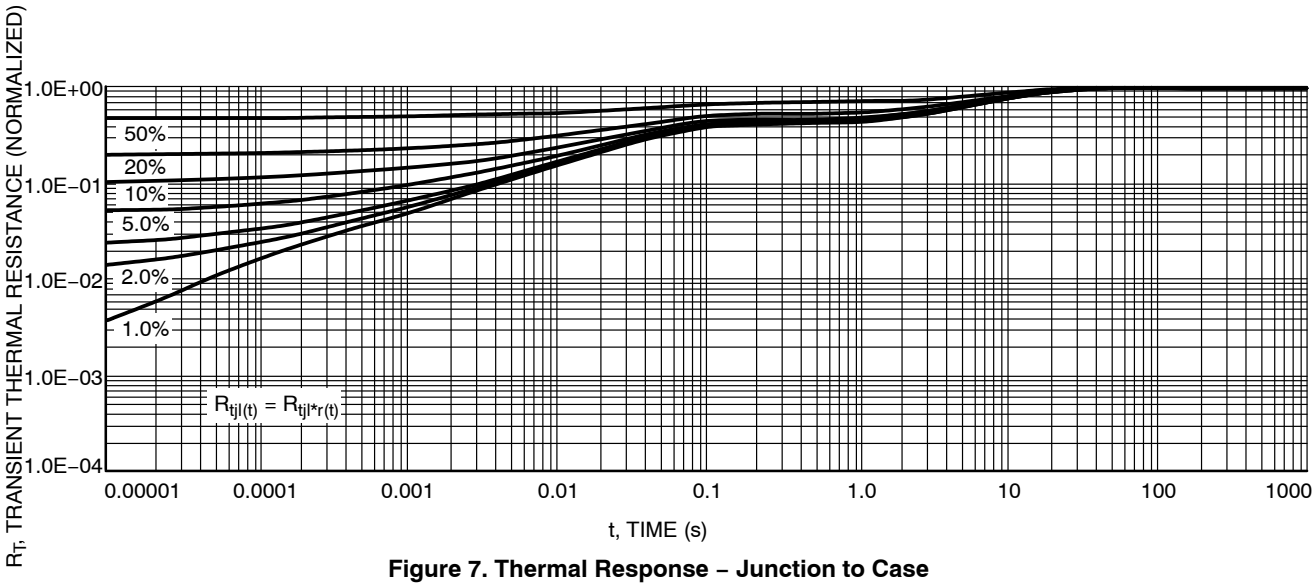


**Figure 7. Thermal Response − Junction to Case**

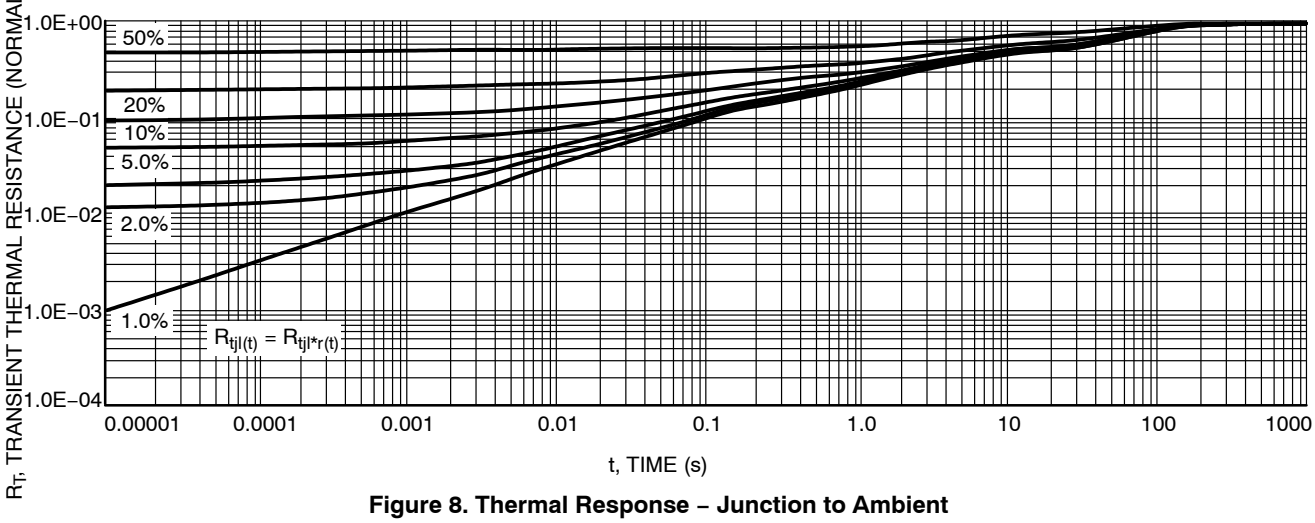


**Figure 8. Thermal Response − Junction to Ambient**

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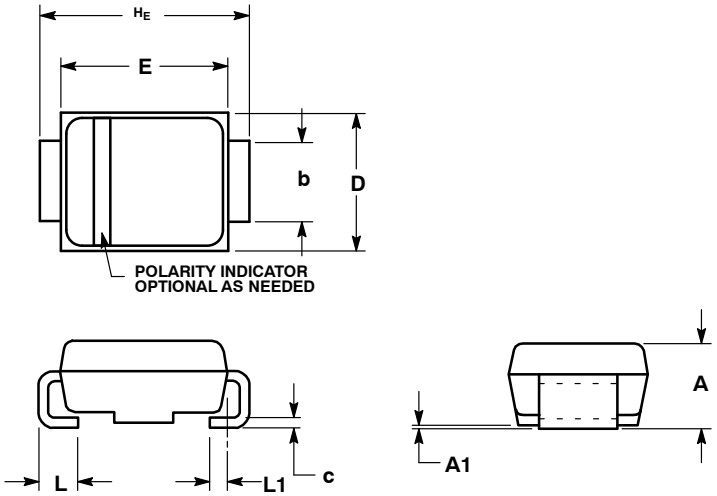
CASE 403A−03
ISSUE J

DATE 19 JUL 2012

**SCALE 1:1**
**Polarity Band**

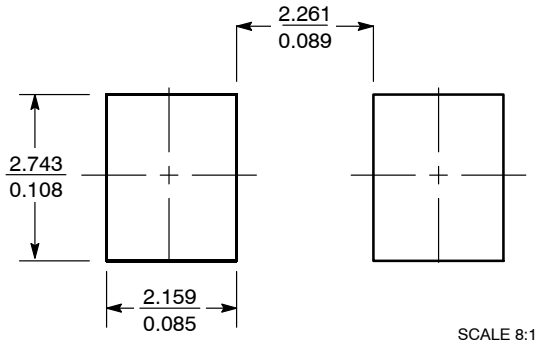
**SCALE 1:1**
**Non−Polarity Band**




NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION b SHALL BE MEASURED WITHIN DIMENSION L1.

| | MILLIMETERS | | | INCHES | | |
|---|---|---|---|---|---|---|
| DIM | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 1.95 | 2.30 | 2.47 | 0.077 | 0.091 | 0.097 |
| A1 | 0.05 | 0.10 | 0.20 | 0.002 | 0.004 | 0.008 |
| b | 1.96 | 2.03 | 2.20 | 0.077 | 0.080 | 0.087 |
| c | 0.15 | 0.23 | 0.31 | 0.006 | 0.009 | 0.012 |
| D | 3.30 | 3.56 | 3.95 | 0.130 | 0.140 | 0.156 |
| E | 4.06 | 4.32 | 4.60 | 0.160 | 0.170 | 0.181 |
| $H_E$ | 5.21 | 5.44 | 5.60 | 0.205 | 0.214 | 0.220 |
| L | 0.76 | 1.02 | 1.60 | 0.030 | 0.040 | 0.063 |
| L1 | 0.51 REF | | | 0.020 REF | | |

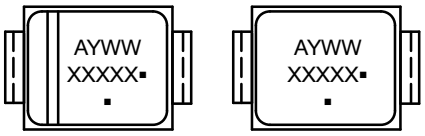
## SOLDERING FOOTPRINT*




SCALE 8:1 (mm / inches)

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

## GENERIC MARKING DIAGRAM*




**Polarity Band** **Non−Polarity Band**

XXXXX = Specific Device Code
A = Assembly Location
Y = Year
WW = Work Week
▪ = Pb−Free Package

(Note: Microdot may be in either location)

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G” or microdot “▪”, may or may not be present. Some products may not follow the Generic Marking.

| | | |
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