

# Schottky Barrier Diode

## Dual Series Schottky Barrier Diode for Mixer and Detector 5 V, 30 mA, 0.69 pF CP

### 1SS351

#### Features

- Series Connection of 2 Elements in a Small-Sized Package  
Facilitates High-Density Mounting and Permits 1SS351-Applied Equipment to be Made Smaller
- Small Interterminal Capacitance ( $C = 0.69$  pF typ)
- Small Forward Voltage ( $V_F = 0.23$  V max)
- This is a Pb-Free Device

#### ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

| Symbol    | Parameter            | Conditions | Ratings     | Unit             |
|-----------|----------------------|------------|-------------|------------------|
| $V_{RM}$  | Peak Reverse Voltage |            | 5           | V                |
| $I_F$     | Forward Current      |            | 30          | mA               |
| $T_j$     | Junction Temperature |            | 125         | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature  |            | -55 to +125 | $^\circ\text{C}$ |

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.

#### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

| Symbol | Parameter                 | Conditions                    | Ratings |      |      | Unit          |
|--------|---------------------------|-------------------------------|---------|------|------|---------------|
|        |                           |                               | Min     | Typ  | Max  |               |
| $V_F$  | Forward Voltage           | $I_F = 1$ mA                  | -       | -    | 0.23 | V             |
| $I_F$  | Forward Current           | $V_F = 0.5$ V                 | 30      | -    | -    | mA            |
| $I_R$  | Reverse Current           | $V_R = 0.5$ V                 | -       | -    | 25   | $\mu\text{A}$ |
| C      | Interterminal Capacitance | $V_R = 0.2$ V,<br>$f = 1$ MHz | -       | 0.69 | 0.9  | pF            |

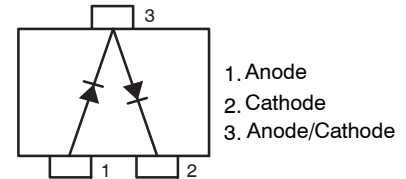
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

1. The specifications shown above are for each individuals diode.

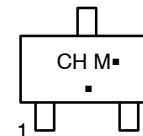


SC-59  
CASE 318BJ

#### ELECTRICAL CONNECTION



#### MARKING DIAGRAM



CH = Specific Device Code  
M = Date Code  
▪ = Pb-Free Package

(Note: Microdot may be in either location)

#### ORDERING INFORMATION

| Device      | Package              | Shipping†              |
|-------------|----------------------|------------------------|
| 1SS351-TB-E | SC-59-3<br>(Pb-Free) | 3 000 /<br>Tape & Reel |

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

TYPICAL CHARACTERISTICS

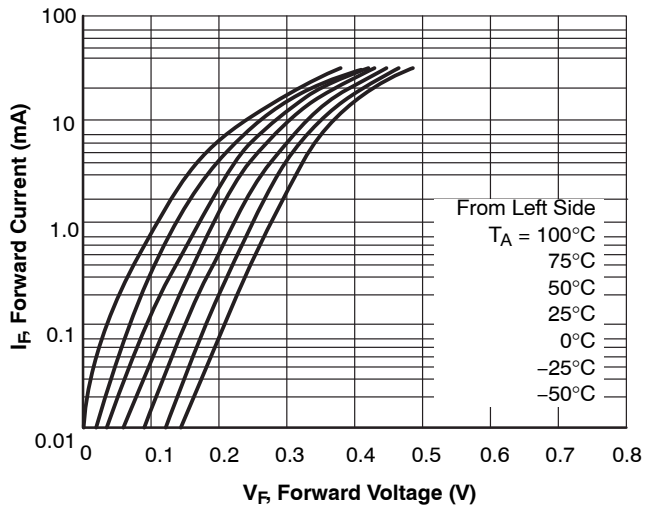


Figure 1.  $I_F - V_F$

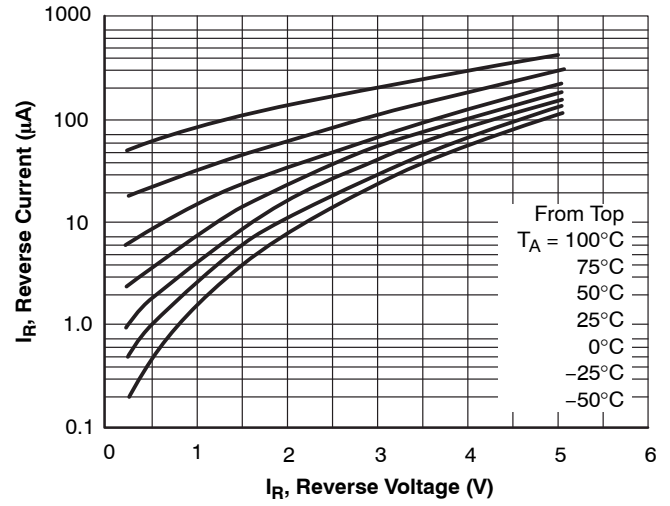


Figure 2.  $I_R - V_R$

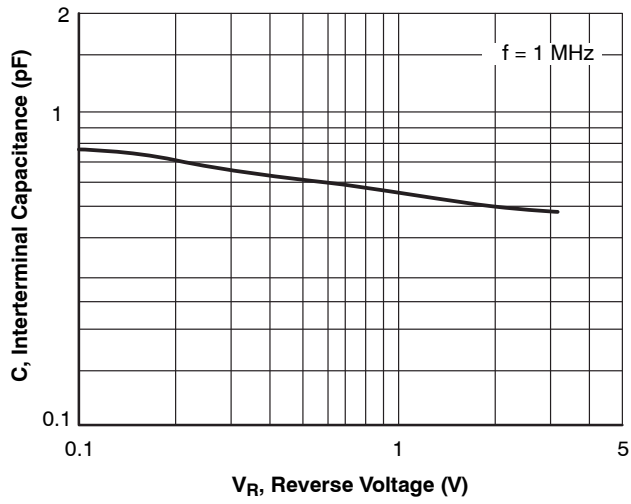


Figure 3.  $C - V_R$

# MECHANICAL CASE OUTLINE PACKAGE DIMENSIONS

ON Semiconductor®

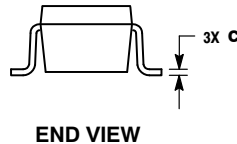
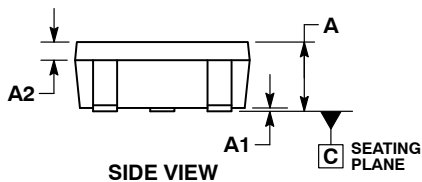
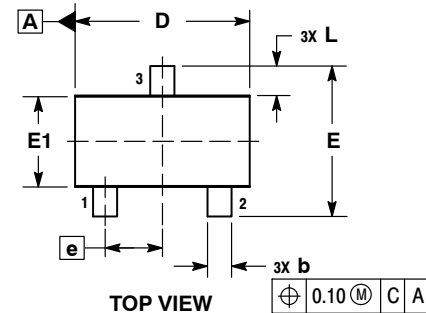
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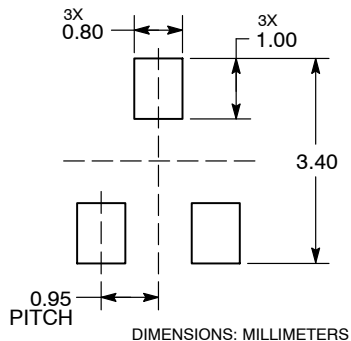
SCALE 2:1

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ISSUE O

DATE 09 JAN 2015



## RECOMMENDED SOLDERING FOOTPRINT\*



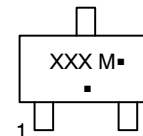
DIMENSIONS: MILLIMETERS

## NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSIONS D AND E1 DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS. MOLD FLASH, PROTRUSIONS, OR GATE BURRS SHALL NOT EXCEED 0.20 PER SIDE.
4. DIMENSIONS D AND E1 ARE MEASURED AT THE OUTERMOST EXTREME OF THE PLASTIC BODY.
5. DIMENSIONS b AND c APPLY TO THE FLAT SECTION OF THE LEAD BETWEEN 0.10 AND 0.20 FROM THE TIP.

| MILLIMETERS |          |      |
|-------------|----------|------|
| DIM         | MIN      | MAX  |
| A           | 0.95     | 1.35 |
| A1          | 0.00     | 0.10 |
| A2          | 0.20     | 0.40 |
| b           | 0.35     | 0.50 |
| c           | 0.10     | 0.20 |
| D           | 2.75     | 3.05 |
| E           | 2.30     | 2.70 |
| E1          | 1.35     | 1.65 |
| e           | 0.95 BSC |      |
| L           | 0.35     | 0.75 |

## GENERIC MARKING DIAGRAM



XXX = Specific Device Code  
M = Date Code  
▪ = 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.

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

|                  |             |                                                                                                                                                                                  |
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| DESCRIPTION:     | SC-59 / CP3 | PAGE 1 OF 1                                                                                                                                                                      |

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