

Ultra-Low VF Schottky Rectifier, 10 A, 150 V

FSV10150V

Features

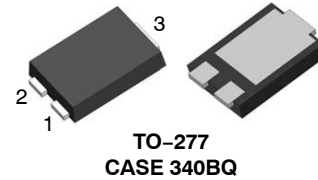
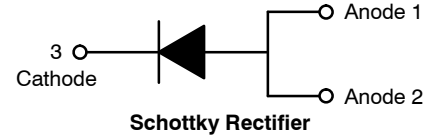
- Ultra-Low Forward Voltage Drop
- Low Thermal Resistance
- Very Low Profile: Typical Height of 1.1 mm
- Trench Schottky Technology
- Green Molding Compound as per IEC61249 Standard
- These Devices are Pb-Free, Halogen Free and are RoHS Compliant

Specifications

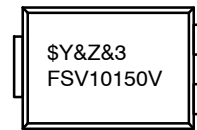
ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-------------|--|-------------|------------------|
| V_{RRM} | Peak Repetitive Reverse Voltage | 150 | V |
| V_{RWM} | Working Peak Reverse Voltage | 150 | V |
| V_{RMS} | RMS Reverse Voltage | 106 | V |
| V_R | DC Blocking Voltage | 150 | V |
| $I_{F(AV)}$ | Average Rectified Peak Forward Surge Current | 10 | A |
| I_{FSM} | Non-Repetitive Peak Forward Surge Current | 180 | A |
| T_J | Operating Junction Temperature Range | -55 to +150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature Range | -55 to +150 | $^\circ\text{C}$ |

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.



MARKING DIAGRAM



- \$Y = onsemi Logo
- &Z = Assembly Plant Code
- &3 = Data Code (Year & Week)
- FSV10150V = Specific Device Code

ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

FSV10150V

THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted) (Note 1)

| Symbol | Parameter | Minimum Land Pattern | Maximum Land Pattern | Unit |
|-----------------|--|----------------------|----------------------|---------------------------|
| $R_{\theta JA}$ | Junction-to-Ambient Thermal Resistance | 100 | 40 | $^\circ\text{C}/\text{W}$ |
| Ψ_{JL} | Junction-to-Lead Thermal Characteristics, Thermocouple Soldered to Anode | 15 | 12 | $^\circ\text{C}/\text{W}$ |
| | Junction-to-Lead Thermal Characteristics, Thermocouple Soldered to Cathode | 6 | 5 | |

1. The thermal resistances ($R_{\theta JA}$ & Ψ_{JL}) are characterized with device mounted on the following FR4 printed circuit boards, as shown in Figure 1 and Figure 2. PCB size: 76.2 x 114.3 mm. Minimum land pattern size: 4.9 x 4.8 mm (big pattern, x1), 1.4 x 1.52 mm (small pattern, x2). Maximum land pattern size: 30 x 30 mm (pattern, x2). Force line trace size = 55 mils, sense line trace size = 4 mils.



Figure 1. Minimum Land Pattern of 2 oz Copper

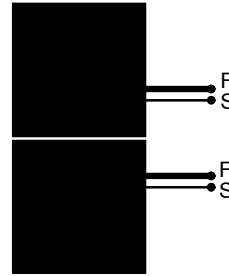


Figure 2. Maximum Land Pattern of 2 oz Copper

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|--------|----------------------|------------------------|-----|-----|------|---------------|
| BV_R | Breakdown Voltage | $I_R = 0.5 \text{ mA}$ | 150 | - | - | V |
| V_F | Forward Voltage Drop | $I_F = 10 \text{ A}$ | - | - | 0.84 | V |
| I_R | Reverse Current | $V_R = 150 \text{ V}$ | - | - | 20 | μA |

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.

ORDERING INFORMATION

| Part Number | Top Mark | Package | Shipping† |
|-------------|-----------|-------------------------------------|--------------------|
| FSV10150V | FSV10150V | TO-277 3L (Pb-Free/Halogen Free) | 5000 / 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.

TYPICAL PERFORMANCE CHARACTERISTICS

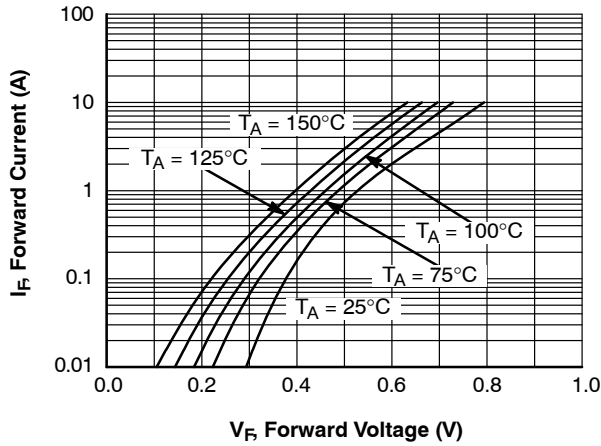


Figure 3. Typical Forward Characteristics

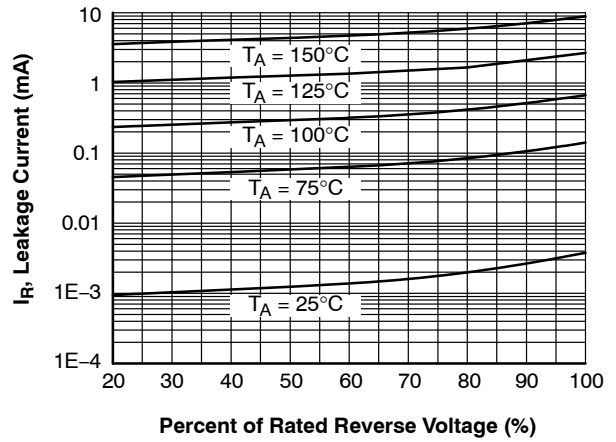


Figure 4. Typical Reverse Characteristics

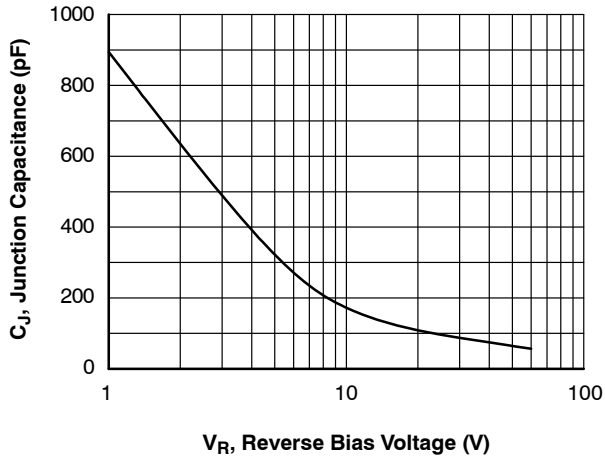


Figure 5. Typical Junction Capacitance

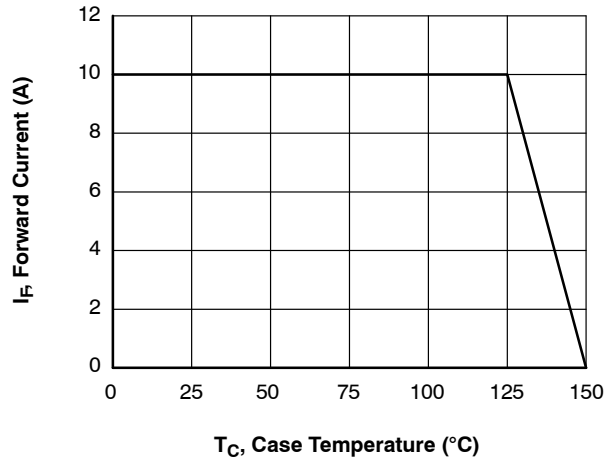
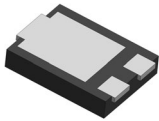
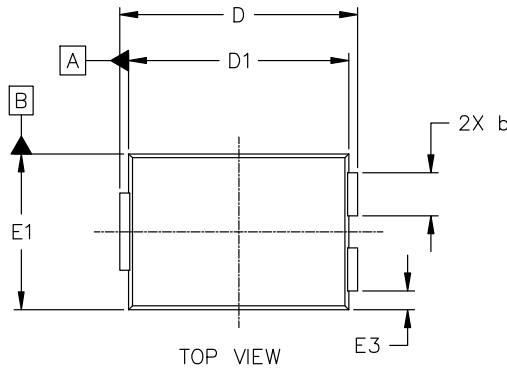


Figure 6. Forward Current Derating Curve

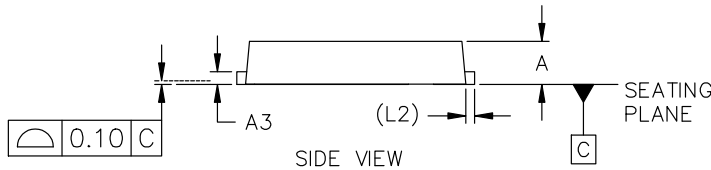


TO-277-3 5.91x4.44x1.10, 2.10P
CASE 340BQ
ISSUE A

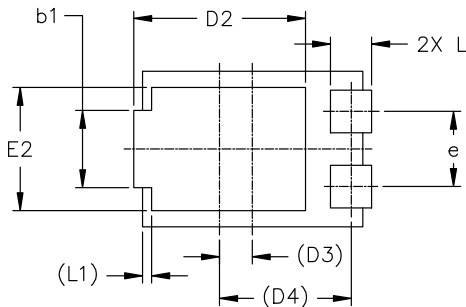
DATE 16 APR 2026



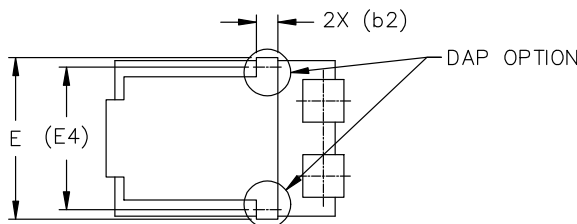
TOP VIEW



SIDE VIEW



BOTTOM VIEW

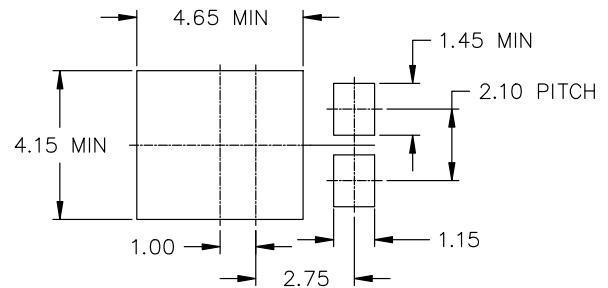


BOTTOM VIEW - DAP OPTION

NOTES:

1. DIMENSIONING AND TOLERANCING AS PER ASME Y14.5M, 2018.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSIONS D1 AND E1 DO NOT INCLUDE MOLD FLASH, MOLD FLASH SHALL NOT EXCEED 0.13 mm PER SIDE.

| MILLIMETERS | | | |
|-------------|-----------|------|------|
| DIM | MIN | NOM | MAX |
| A | 1.00 | 1.10 | 1.20 |
| A3 | 0.23 | 0.32 | 0.40 |
| b | 1.10 | 1.25 | 1.40 |
| b1 | 1.95 | 2.10 | 2.25 |
| b2 | 0.60 REF | | |
| D | 6.35 | 6.50 | 6.65 |
| D1 | 5.67 | 5.91 | 6.15 |
| D2 | 4.23 | 4.57 | 4.90 |
| D3 | 0.913 REF | | |
| D4 | 3.680 REF | | |
| E | --- | --- | 4.75 |
| E1 | 4.25 | 4.44 | 4.63 |
| E2 | 3.25 | 3.48 | 3.70 |
| E3 | 0.43 | 0.53 | 0.63 |
| E4 | 3.680 REF | | |
| e | 2.00 | 2.10 | 2.20 |
| L | 0.90 | 1.08 | 1.25 |
| L1 | 0.25 REF | | |
| L2 | 0.35 REF | | |



RECOMMENDED MOUNTING FOOTPRINT

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

| | | |
|-------------------------|---------------------------------------|--|
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| DESCRIPTION: | TO-277-3 5.91x4.44x1.10, 2.10P | PAGE 1 OF 1 |

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