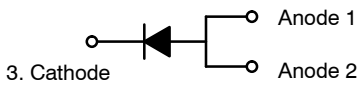
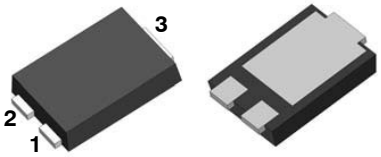
# Schottky Rectifier

## 10 A, 60 V Ultra-Low VF

# FSV1060V




**Schottky Rectifier**




**TO−277−3LD**
**CASE 340BQ**

### Description

The FSV1060V schottky rectifier offers break−through size and performance. The device is optimized for mobile charger applications. It sinks only 13 mA reverse current at high temperature and provides forward voltage drop of 0.2 V at 1 A operating current in a charger design.

All this capability is packed into a small, flat−lead, TO−277 package, optimized for space−constrained applications. The FSV1060V supports a typical Z height of 1.1 mm. It is RoHS compliant and halogen free. It is also qualified for a wave soldering process.

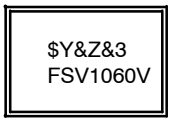
### Features

- Ultra−Low Forward Voltage Drop:
  - 0.47 V Typical at 10 A, $T_A$ = 25°C
  - 0.52 V Maximum at 10 A, $T_A$ = 25°C
- Low Thermal Resistance
- Very Low Profile: Typical Height of 1.1 mm
- Meets MSL 1 per JESD22−A111 Full−Body Solder Immersion
- Non−DAP Option Only
- These Devices are Pb−Free, Halogen Free and are RoHS Compliant

### Applications

- Mobile Charger
- Solar Panel
- Reverse Polarity Protection

### MARKING DIAGRAM




| | |
|---|---|
| $Y | = **onsemi** Logo |
| &Z | = Assembly Plant Code |
| &3 | = Date Code (Year & Week) |
| FSV1060V | = Specific Device Code |

### ORDERING INFORMATION

See detailed ordering and shipping information on page 3 of this data sheet.

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## Specifications

### ABSOLUTE MAXIMUM RATINGS ($T_A$ = 25°C unless otherwise noted) (Note 1)

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{RRM}$ | Peak Repetitive Reverse Voltage | 60 | V |
| $V_{RWM}$ | Working Peak Reverse Voltage | 60 | V |
| $V_{RMS}$ | RMS Reverse Voltage | 42 | V |
| $V_R$ | DC Blocking Voltage | 60 | V |
| $I_O$ | Average Rectified Output Current at $T_L$ = 90°C (Note 2) | 10 | A |
| $I_{FSM}$ | Non−Repetitive Peak Forward Surge Current (Note 3) | 280 | A |
| $C_J$ | Typical Junction Capacitance, $V_R$ = 4 V, 1 MHz | 550 | pF |
| $T_J$ | Operating Junction Temperature Range | −55 to +150 | °C |
| $T_{STG}$ | Storage Temperature Range | −55 to +150 | °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.

1. All test conducted at $T_A = T_J$ = 25°C unless otherwise noted.
2. Mounted on 30 mm x 30 mm FR4 PCB.
3. Pulse condition: 8.3 ms single half−sine wave. Test method is compliant with MIL standard (MIL−STD−750E).

### THERMAL CHARACTERISTICS ($T_A$ = 25°C unless otherwise noted) (Note 4)

| Symbol | Characteristic | Minimum Land Pattern | Maximum Land Pattern | Unit |
|---|---|---|---|---|
| $R_{\theta JA}$ | Junction−to−Ambient Thermal Resistance | 105 | 38 | °C/W |
| $\Psi_{JL}$ | Junction−to−Lead Thermal Characteristics, Thermocouple Soldered to Anode | 18 | 13 | °C/W |
| | Junction−to−Lead Thermal Characteristics, Thermocouple Soldered to Cathode | 8 | 5 | |

4. The thermal resistances ($R_{\theta JA}$ & $\Psi_{JL}$) 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**

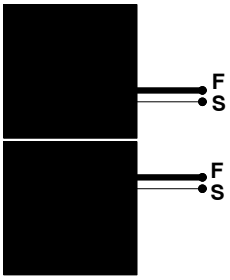



**Figure 2. Maximum Land Pattern of 2 oz Copper**



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**ELECTRICAL CHARACTERISTICS** ($T_A$ = 25°C unless otherwise noted)

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| $BV_R$ | Breakdown Voltage | $I_T$ = 500 μA | 60 | – | – | V |
| $V_F$ | Forward Voltage Drop | $I_F$ = 1 A | – | 0.30 | – | V |
| | | $I_F$ = 10 A | – | 0.47 | 0.52 | |
| | | $I_F$ = 1 A, $T_A$ = 125°C | – | 0.20 | – | |
| | | $I_F$ = 10 A, $T_A$ = 125°C | – | 0.46 | – | |
| $I_R$ | Maximum Leakage | $V = V_{RWM}$ | – | 0.056 | 0.220 | mA |
| | | $V = V_{RWM}$, $T_A$ = 125°C | – | 13 | – | |

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† |
|---|---|---|---|
| FSV1060V | FSV1060V | TO−277−3LD<br>(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.



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## TYPICAL PERFORMANCE CHARACTERISTICS

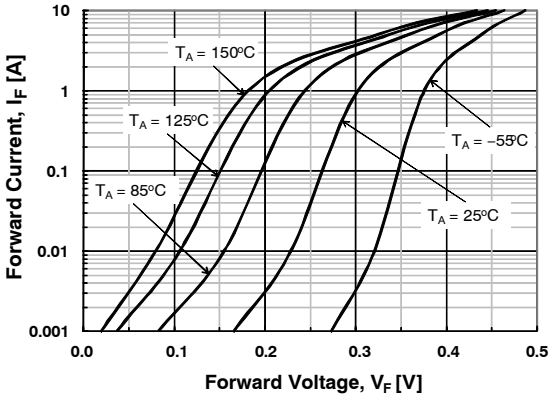



**Figure 3. Forward Current Characteristics**

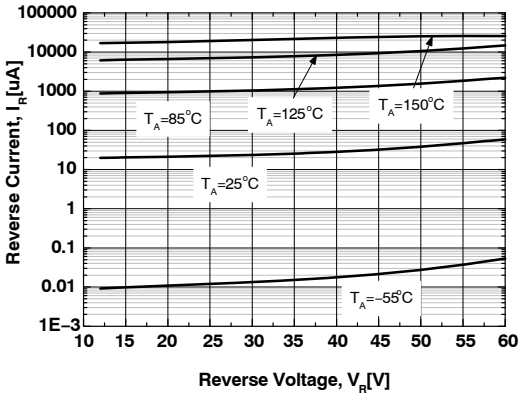



**Figure 4. Typical Reverse Characteristics**

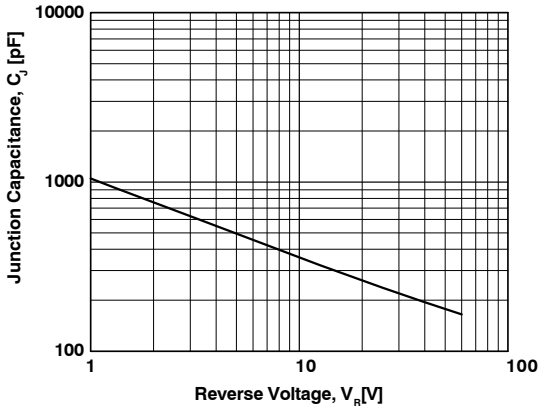



**Figure 5. Typical Junction Capacitance**

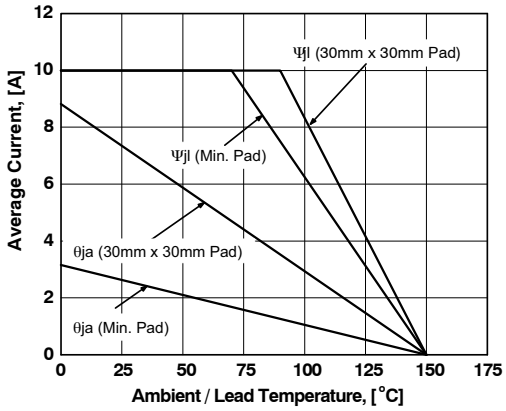



**Figure 6. Forward Current Derating Curve**

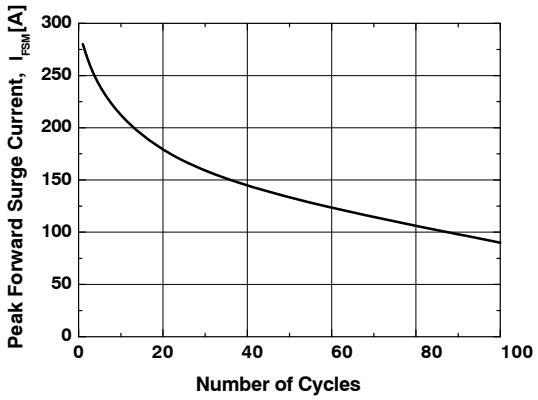
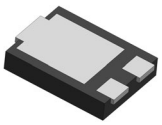



**Figure 7. Surge Current Derating Curve**



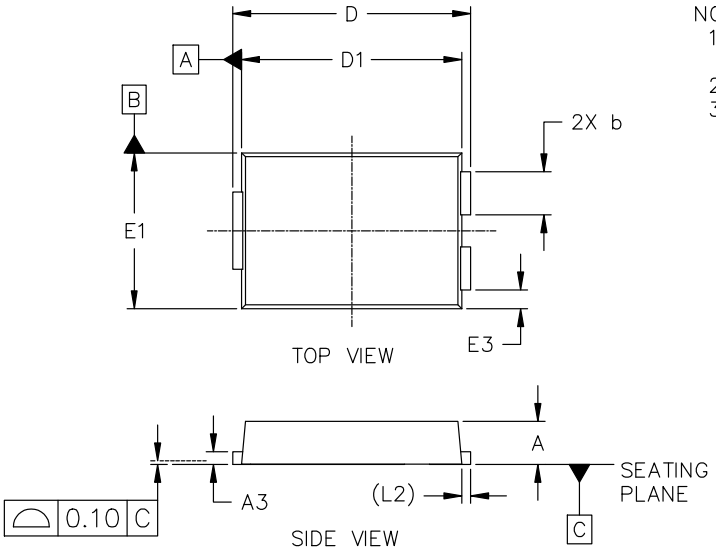
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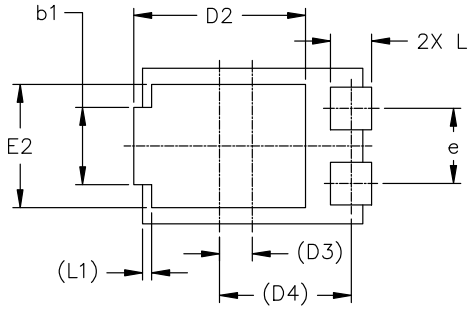
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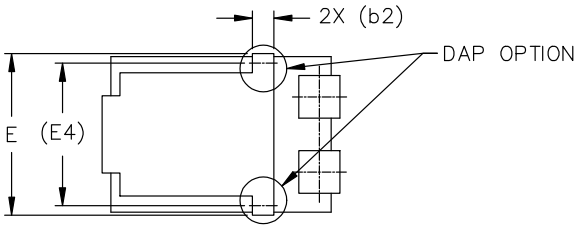


**TO−277−3 5.91x4.44x1.10, 2.10P**
CASE 340BQ
ISSUE A

DATE 16 APR 2026

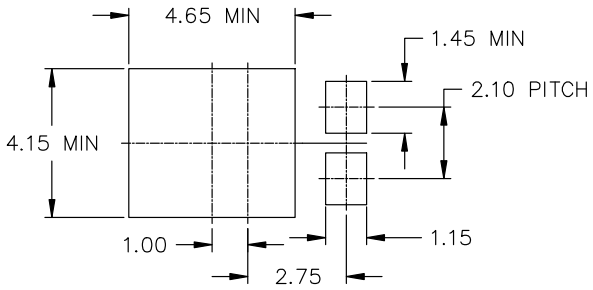



NOTES:
1. DIMENSIONING AND TOLERANCING AS PER ASME Y14.5M, 2018.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSIONS D1 AND E1 DO NOT INCLUDE MOLD FLASH, MOLD FLASH SHALL NOT EXCEED 0.13 mm PER SIDE.

| 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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