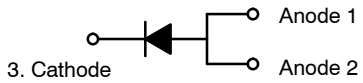
Schottky Barrier Rectifier

5 A, 60 V Low VF

FSV560



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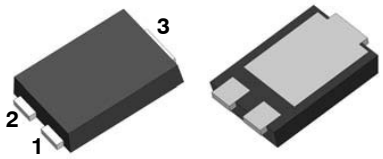


TO−277−3LD
CASE 340BQ

Features

- Low Forward Voltage Drop
- Low Thermal Resistance
- Very Low Profile: Typical Height of 1.1 mm
- Green Molding Compound as per IEC61249 Standard
- Non−DAP Option Only
- These Devices are Pb−Free, Halogen Free and are RoHS Compliant

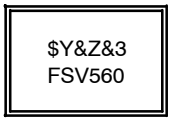
Specifications

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	60	V
V_{RMS}	RMS Reverse Voltage	42	V
V_R	DC Blocking Voltage	60	V
$I_{F(AV)}$	Average Rectified Peak Forward Surge Current at T_A = 75°C	5	A
I_{FSM}	Non−Repetitive Peak Forward Surge Current	150	A
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.

MARKING DIAGRAM



$Y	= **onsemi** Logo
&Z	= Assembly Plant Code
&3	= Date Code (Year & Week)
FSV560	= Specific Device Code

ORDERING INFORMATION

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

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September, 2024 − Rev. 5
Publication Order Number:
FSV560/D

THERMAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (Note 1)

Symbol	Characteristic	Minimum Land Pattern	Maximum Land Pattern	Unit
$R_{\theta JA}$	Junction−to−Ambient Thermal Resistance	100	40	°C/W
Ψ_{JL}	Junction−to−Lead Thermal Characteristics, Thermocouple Soldered to Anode	15	12	°C/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

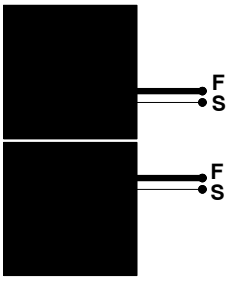

Figure 2. Maximum Land Pattern of 2 oz Copper

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
BV_R	Breakdown Voltage	I_R = 0.5 mA	60	–	–	V
V_F	Forward Voltage Drop	I_F = 3 A	–	511	–	mV
		I_F = 5 A	–	610	670	
		I_F = 3 A, T_A = 125°C	–	470	–	
		I_F = 5 A, T_A = 125°C	–	560	–	
I_R	Reverse Current	V_R = 48 V	–	12	–	μA
		V_R = 60 V	–	–	150	μA
		V_R = 60 V, T_A = 125°C	–	15	–	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.

ORDERING INFORMATION

Part Number	Top Mark	Package	Shipping†
FSV560	FSV560	TO−277−3LD (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

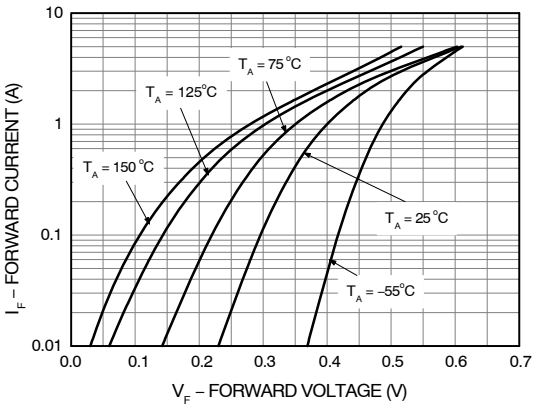

Figure 3. Typical Forward Characteristics

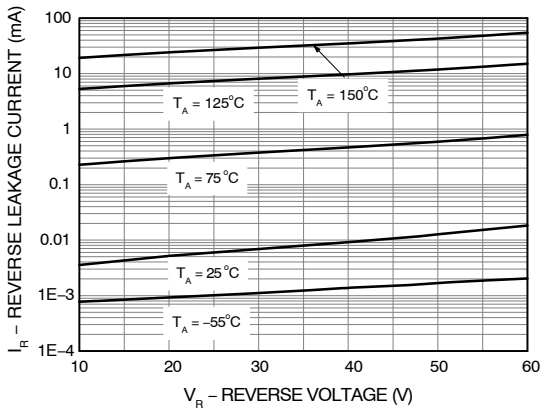

Figure 4. Typical Reverse Characteristics

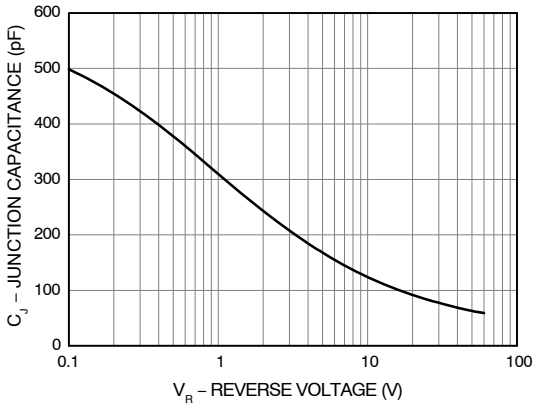

Figure 5. Typical Junction Capacitance

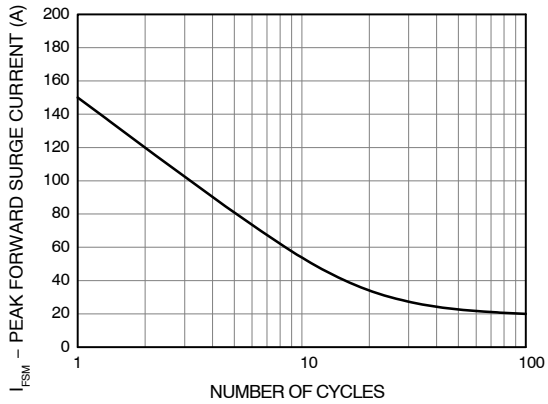

Figure 6. Typical Reverse Characteristic

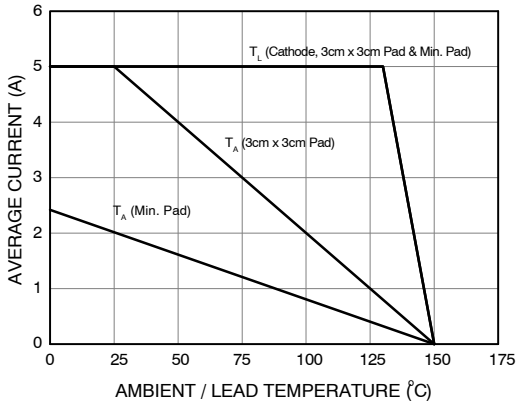

Figure 7. Forward Current Derating Curve

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CASE 340BQ
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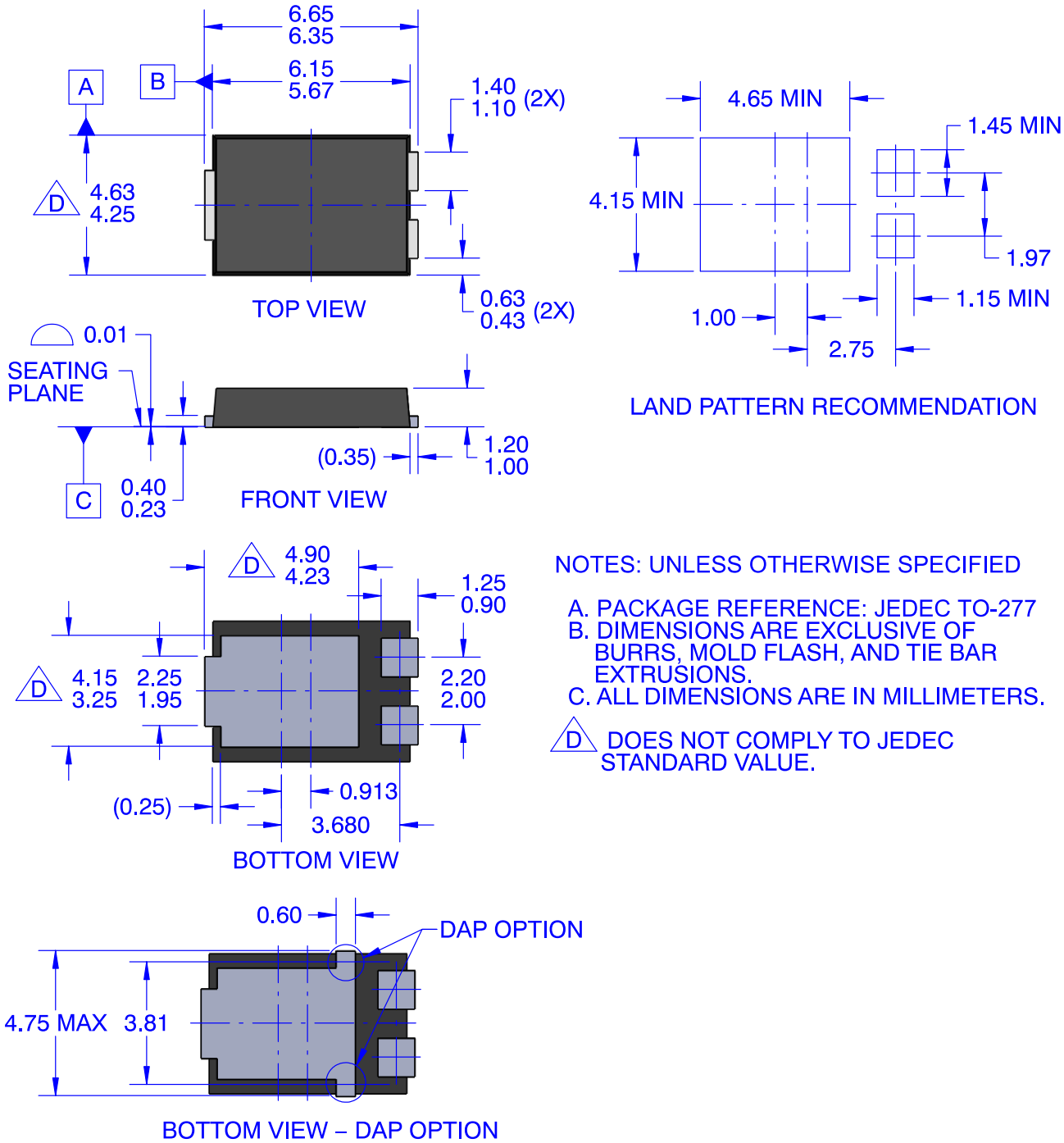

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