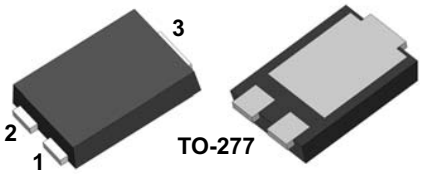
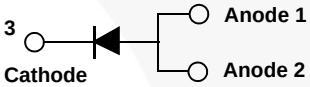
July 2015

FSV20150V
20 A, 150 V Ultra-Low VF Schottky Rectifier

Features

- Ultra-Low Forward Voltage Drop
- Low Thermal Resistance
- Very Low Profile: Typical Height of 1.1 mm
- Trench Schottky Technology
- RoHS Compliant
- Green Molding Compound as per IEC61249 Standard
- Lead Free in Compliance with EU RoHS 2011/65/EU Directive
- Qualified per AEC-Q101 Rev. C Standard





Ordering Information

Part Number	Top Mark	Package	Packing Method
FSV20150V	FSV20150V	TO-277 3L	Tape and Reel

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°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	20	A
I_{FSM}	Non-Repetitive Peak Forward Surge Current	270	A
T_J	Operating Junction Temperature Range	-55 to +150	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

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Thermal Characteristics(1)

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	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	

Note:

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

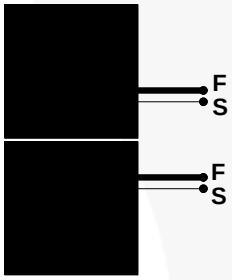


Figure 2. Maximum Land Pattern of 2 oz Copper

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_R	Breakdown Voltage	I_R = 0.5 mA	150			V
V_F	Forward Voltage Drop	I_F = 20 A			0.84	V
I_R	Reverse Current	V_R = 150 V			30	μA

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Typical Performance Characteristics

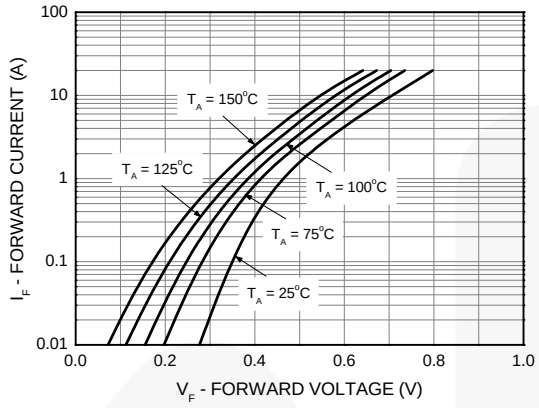


Figure 3. Typical Forward Characteristics

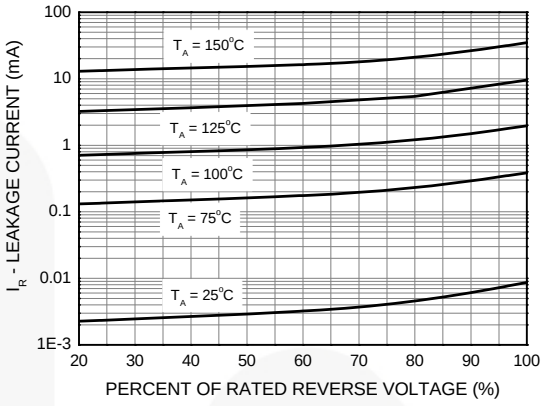


Figure 4. Typical Reverse Characteristics

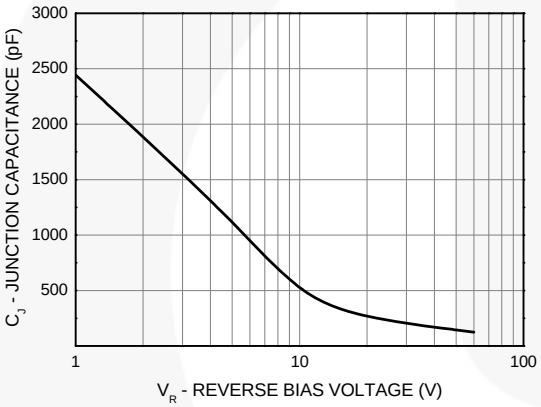


Figure 5. Typical Junction Capacitance

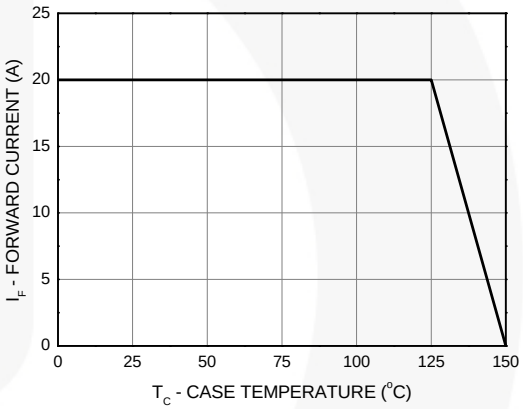
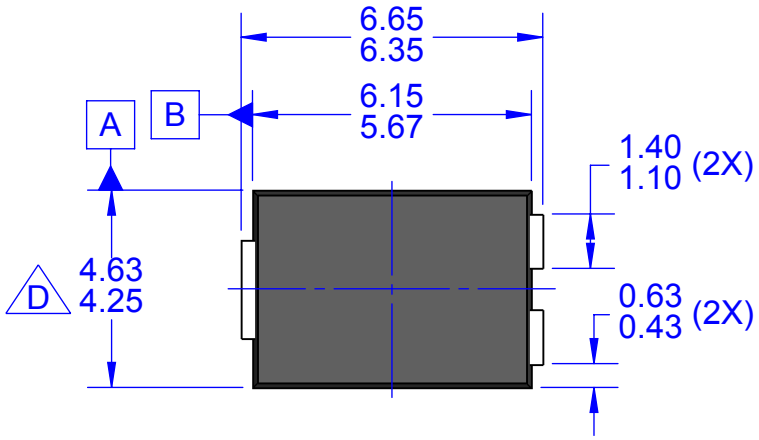
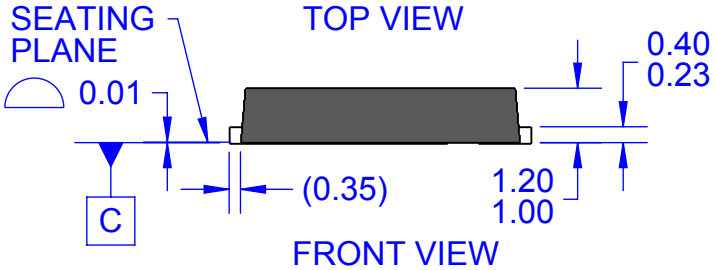


Figure 6. Forward Current Derating Curve

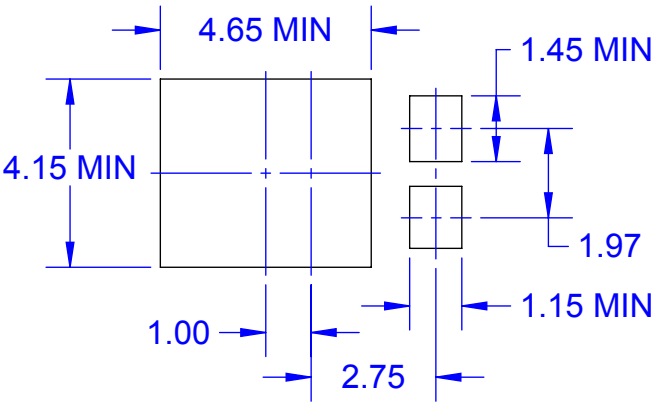
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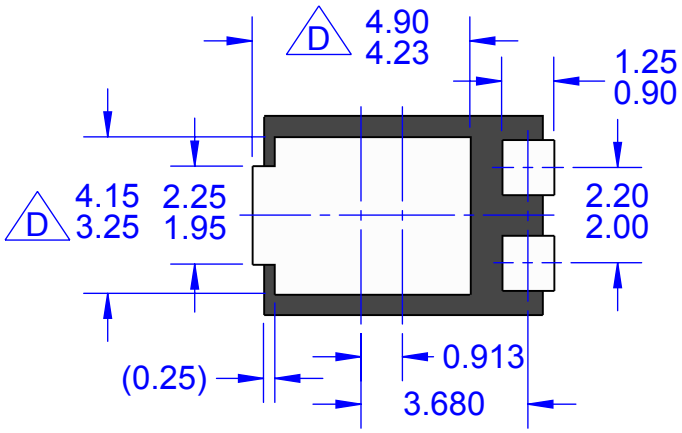
TOP VIEW



FRONT VIEW



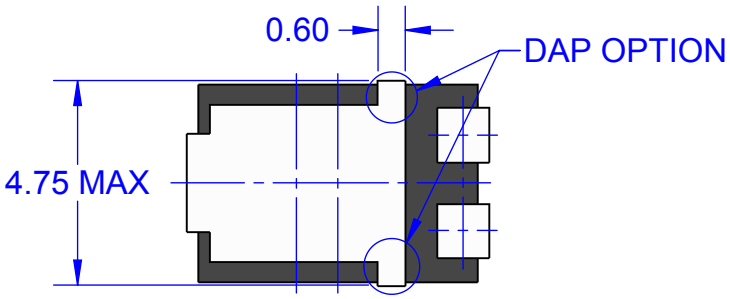
LAND PATTERN RECOMMENDATION



BOTTOM VIEW

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B. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.
C. ALL DIMENSIONS ARE IN MILLIMETERS.
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BOTTOM VIEW - DAP OPTION

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