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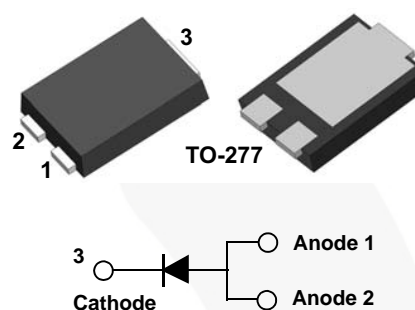
September 2015

# FSV560

## 5 A, 60 V Low VF Schottky Barrier Rectifier

### Features

- Low Forward Voltage Drop
- Low Thermal Resistance
- Very Low Profile: Typical Height of 1.1 mm
- 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
FSV560	FSV560	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  $T_A = 25^\circ\text{C}$  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	5	A
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current	150	A
$T_J$	Operating Junction Temperature Range	-55 to +150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-55 to +150	$^\circ\text{C}$

FSV560 — 5 A, 60 V Low VF Schottky Barrier Rectifier

## Thermal Characteristics<sup>(1)</sup>

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

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

### Note:

- 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

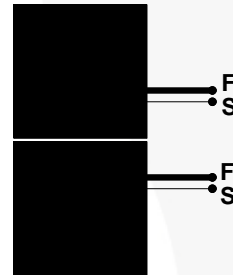


Figure 2. Maximum Land Pattern of 2 oz Copper

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_R$	Breakdown Voltage	$I_R = 0.5 \text{ mA}$	60			V
$V_F$	Forward Voltage Drop	$I_F = 3 \text{ A}$		511		mV
		$I_F = 5 \text{ A}$		610	670	
		$I_F = 3 \text{ A}, T_A = 125^\circ\text{C}$		470		
		$I_F = 5 \text{ A}, T_A = 125^\circ\text{C}$		560		
$I_R$	Reverse Current	$V_R = 48 \text{ V}$		12		$\mu\text{A}$
		$V_R = 60 \text{ V}$			150	$\mu\text{A}$
		$V_R = 60 \text{ V}, T_A = 125^\circ\text{C}$		15		mA

## Typical Performance Characteristics

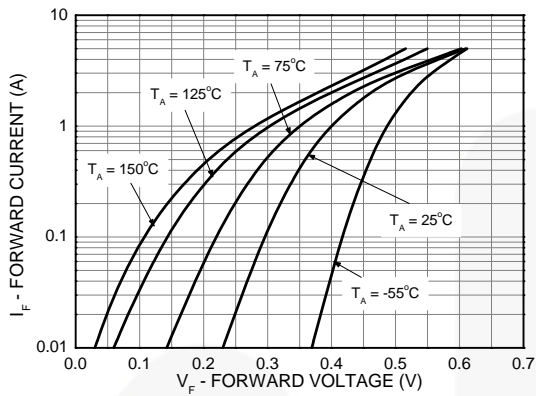


Figure 3. Typical Forward Characteristics

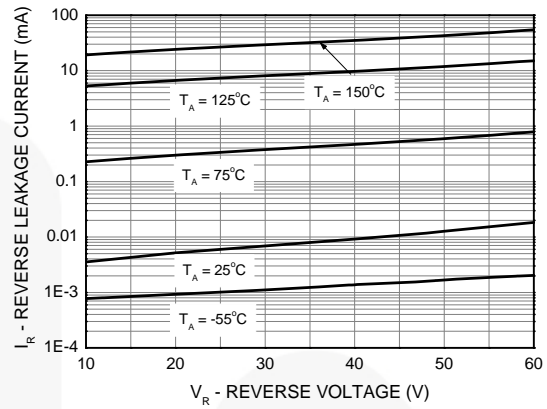


Figure 4. Typical Reverse Characteristics

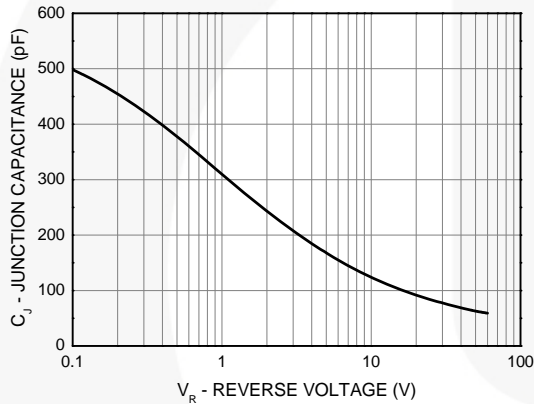


Figure 5. Typical Junction Capacitance

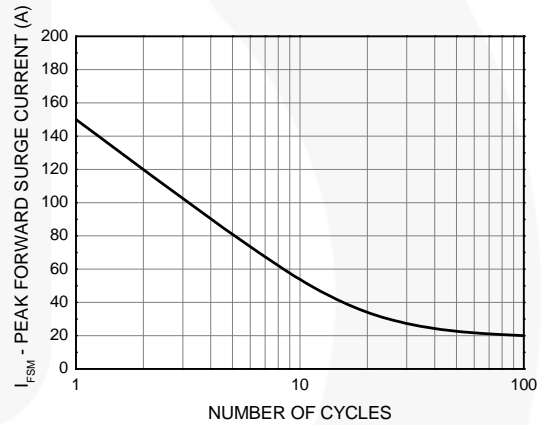


Figure 6. Maximum Non-Repetitive Peak Forward Surge Current

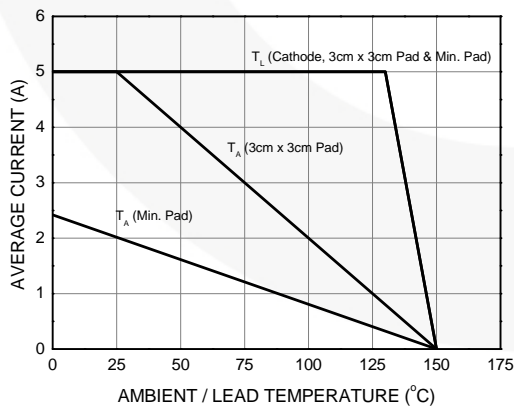
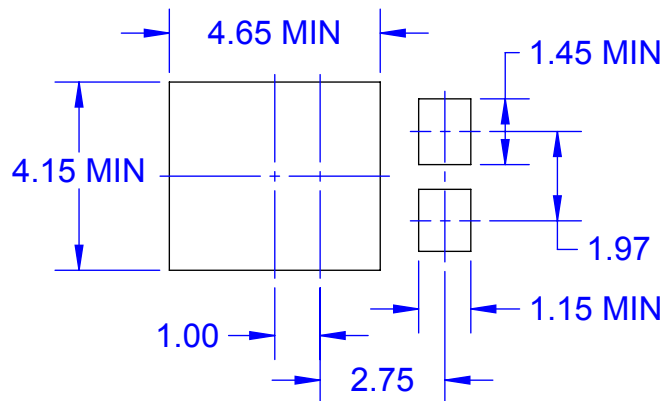
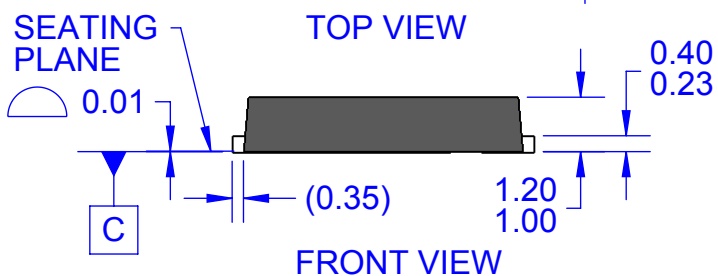
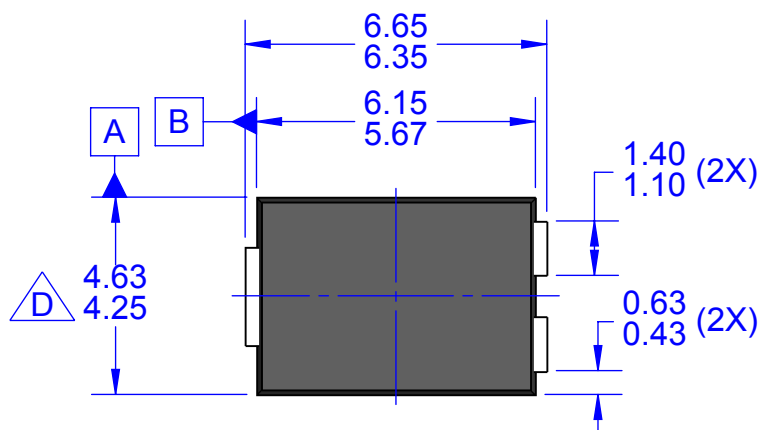
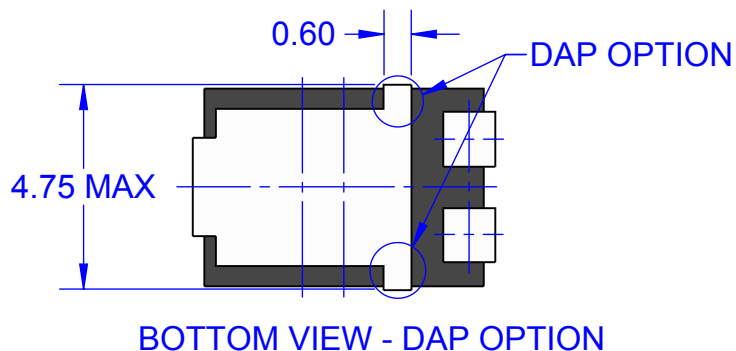
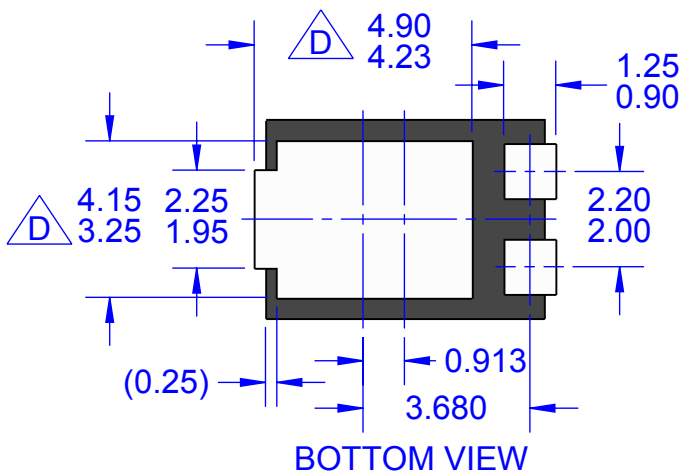


Figure 7. Forward Current Derating Curve



LAND PATTERN RECOMMENDATION



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