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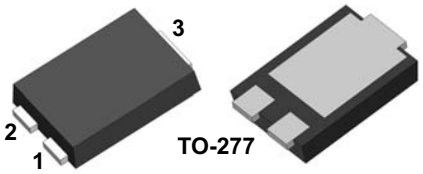
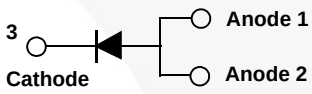
September 2015

FSV540
5 A, 40 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
- Qualified per AEC-Q101 Rev. C Standard





Ordering Information

Part Number	Top Mark	Package	Packing Method
FSV540	FSV540	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	40	V
V_{RMS}	RMS Reverse Voltage	28	V
V_R	DC Blocking Voltage	40	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

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

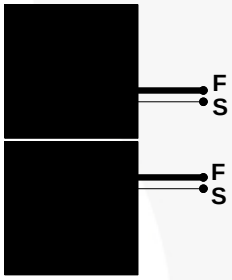


Figure 2. Maximum Land Pattern of 2 oz Copper

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	40			V
V_F	Forward Voltage Drop	I_F = 5 A		474	520	mV
I_R	Reverse Current	V_R = 40 V		25	250	µA
C_J	Junction Capacitance	V_R = 0 V, f = 1 MHz		730		pF

Typical Performance Characteristics

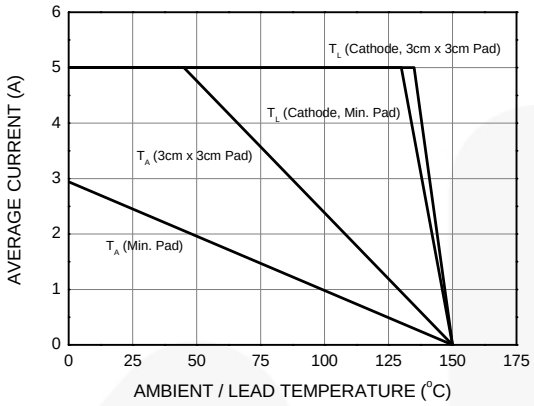


Figure 3. Forward Current Derating Curve

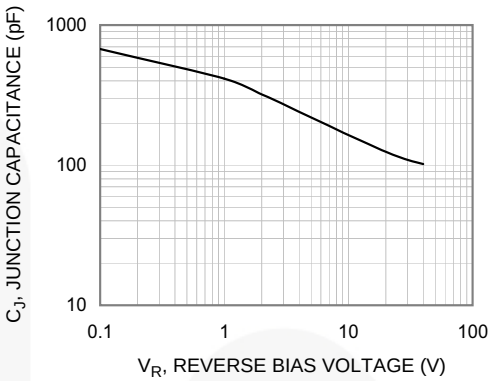


Figure 4. Typical Junction Capacitance

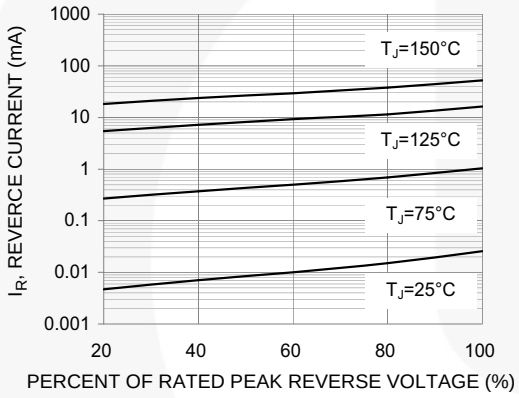


Figure 5. Typical Reverse Characteristic

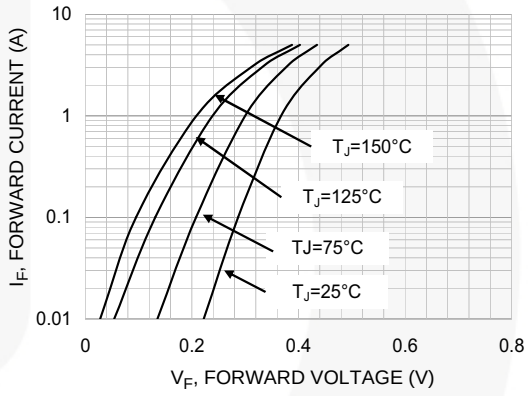
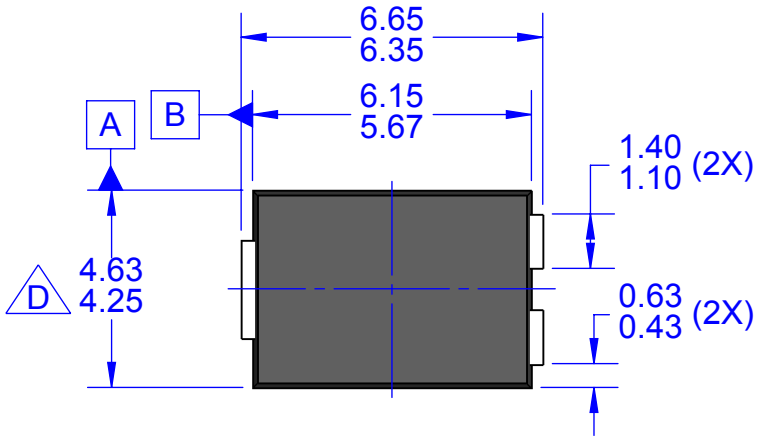
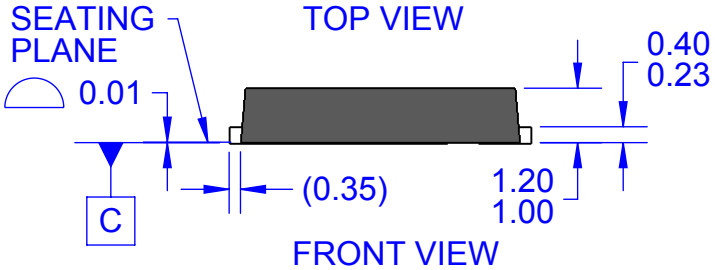


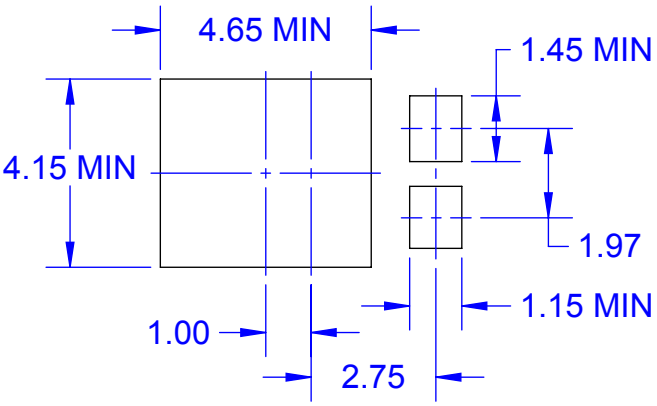
Figure 6. Typical Forward Characteristics



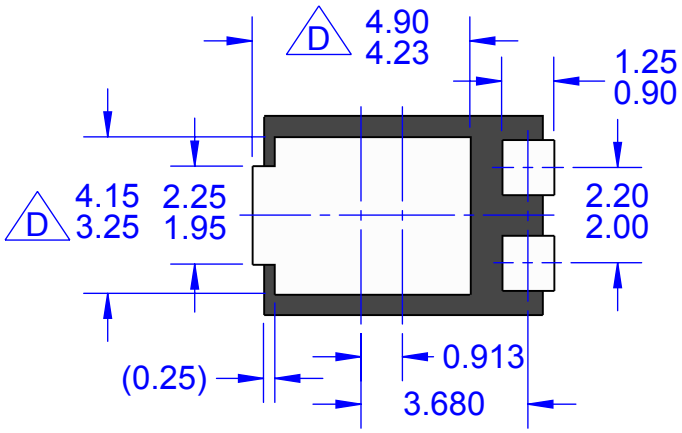
TOP VIEW



FRONT VIEW



LAND PATTERN RECOMMENDATION



BOTTOM VIEW

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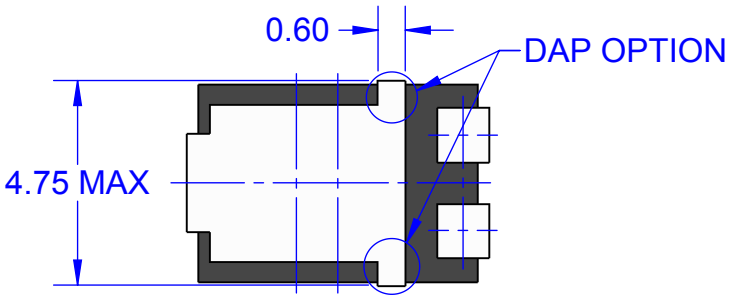
C. ALL DIMENSIONS ARE IN MILLIMETERS.
D DOES NOT COMPLY TO JEDEC STANDARD VALUE.
E. DRAWING FILENAME: MKT-TO277A03rev5



BOTTOM VIEW - DAP OPTION

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