Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Is Now Part of

ON Semiconductor®

To learn more about ON Semiconductor, please visit our website at
www.onsemi.com

May 2015

FS8G - FS8M
8 A Standard Recovery Surface Mount Rectifiers

Features

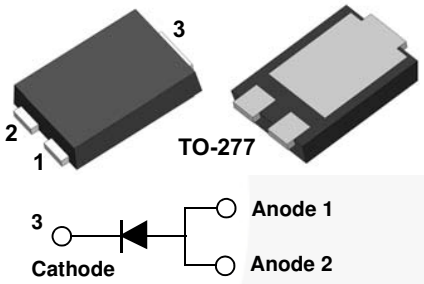
- Very High forward Surge Capability: I_{FSM} = 230 A
- Low Leakage Current: 0.37 µA at T_A = 25°C
- Very Low Profile: Typical Height of 1.1 mm
- Glass Passivated Junction
- Lead Free in Compliance with EU RoHS 2011/65/EU Directive
- Green Molding Compound as per IEC61249 Standard
- Qualified per AEC-Q101 REV. C standard
- HBM (JEDEC A114) > 8 KV; CDM (JEDEC C101C) > 2KV

Applications

- General-Purpose Applications
- Reverse Polarity Protection
- Rectifications

Description

The FS8G to FS8M series offers breakthrough size and performance. It sinks 8 A DC forward current and provides up to 230 A surge current capability with only 0.37 µA reverse leakage current. All this capability is packed into a small, flat-lead, TO-277 package, optimized for space-constrained applications.



Ordering Information

Part Number	Top Mark	Package	Packing Method
FS8G	FS8G	TO-277 3L	Tape and Reel
FS8J	FS8J	TO-277 3L	Tape and Reel
FS8K	FS8K	TO-277 3L	Tape and Reel
FS8M	FS8M	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
		FS8G	FS8J	FS8K	FS8M	
V_{RRM}	Maximum Repetitive Peak Reverse Voltage	400	600	800	1000	V
V_{RMS}	Maximum RMS Reverse Voltage	280	420	560	700	V
V_{DC}	DC Blocking Voltage	400	600	800	1000	V
$I_{F(AV)}$	Maximum Average Rectified Forward Current	8				A
I_{FSM}	Peak Forward Surge Current: 8.3 ms Single Half Sine-Wave Superimposed on Rated Load	230				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	20	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.

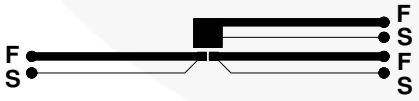


Figure 1. Minimum Land Pattern of 2 oz Copper

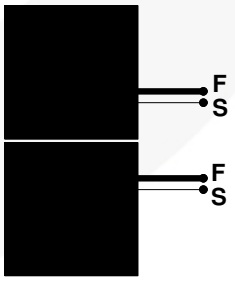


Figure 2. Maximum Land Pattern of 2 oz Copper

Electrical Characteristics

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_F	Forward Voltage	I_F = 8 A		0.951	1.1	V
		I_F = 8 A, T_A = 125°C		0.845		
I_R	DC Reverse Current	$V_R = V_{DC}$		0.37	5	µA
		$V_R = V_{DC}$, T_A = 125°C		84		
T_{rr}	Reverse Recovery Time	I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A		3.37		µs
C_J	Junction Capacitance	V_R = 0 V, f = 1 MHz		118		pF

Typical Performance Characteristics

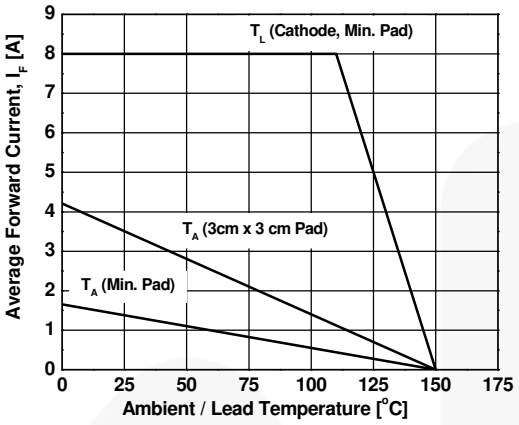


Figure 3. Forward Current Derating Curve

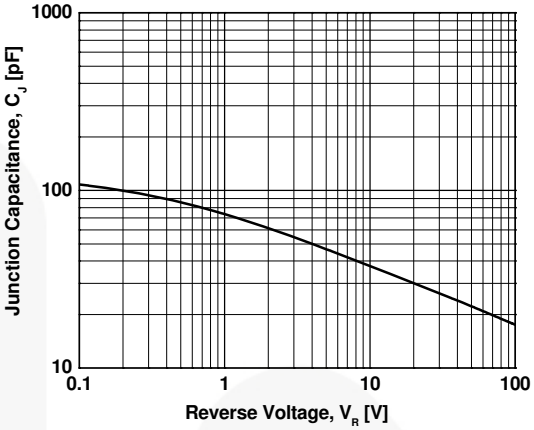


Figure 4. Typical Junction Capacitance

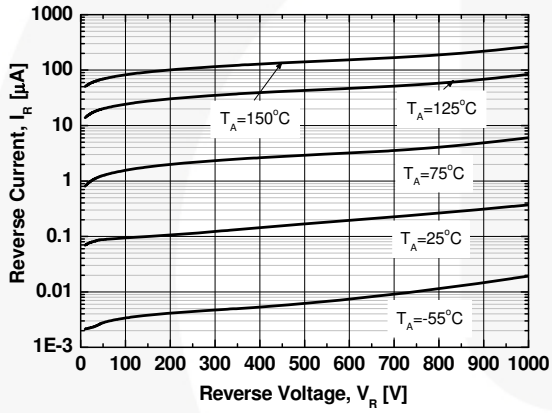


Figure 5. Typical Reverse Characteristics

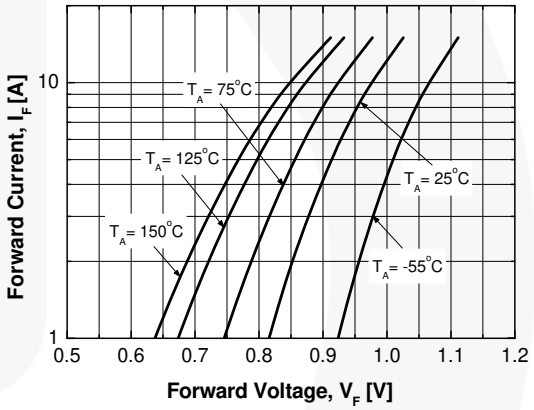


Figure 6. Typical Forward Characteristics

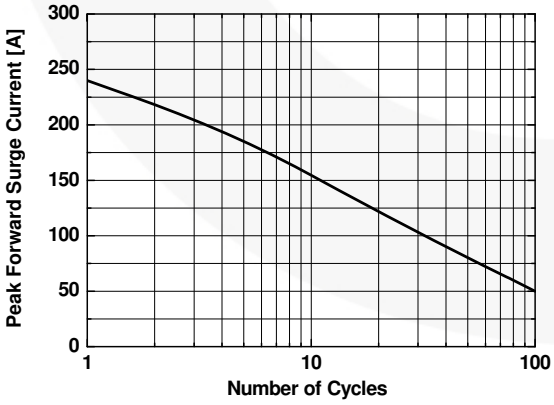
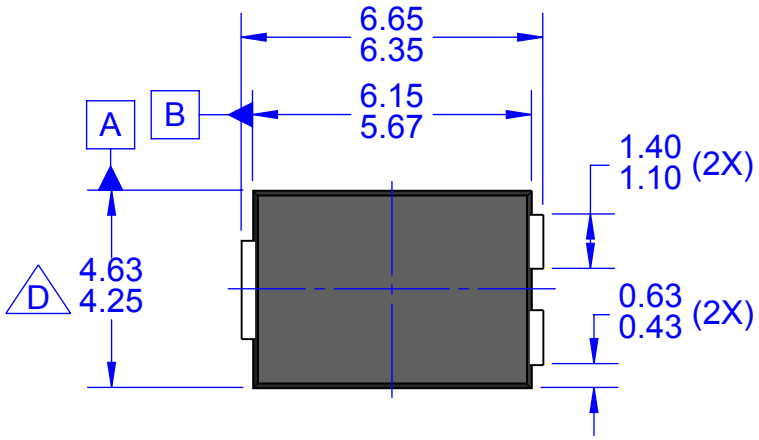
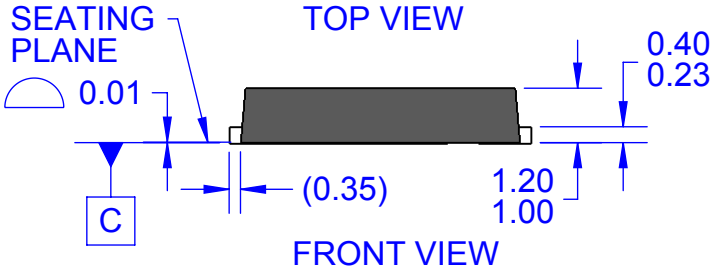


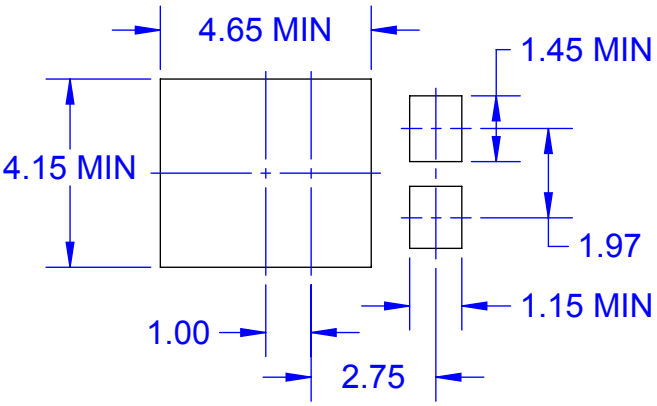
Figure 7. Maximum Non-repetitive Peak Forward Surge current



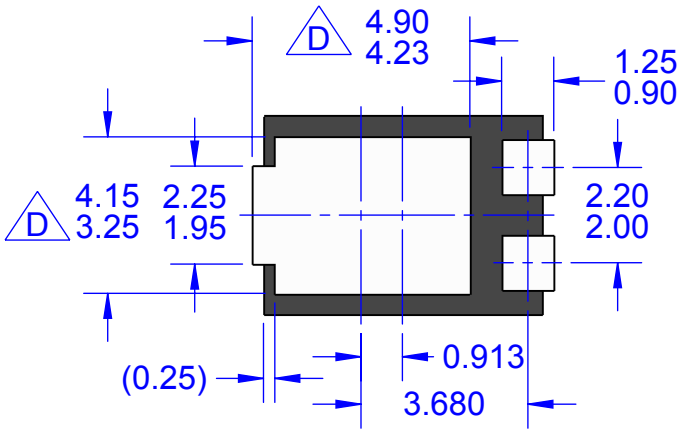
TOP VIEW



FRONT VIEW



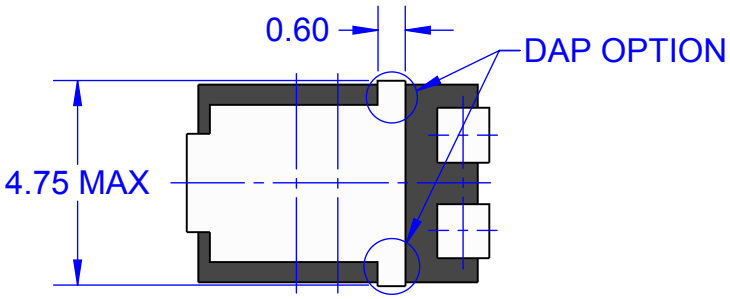
LAND PATTERN RECOMMENDATION



BOTTOM VIEW

NOTES: UNLESS OTHERWISE SPECIFIED

A. PACKAGE REFERENCE: JEDEC TO-277
B. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.
C. ALL DIMENSIONS ARE IN MILLIMETERS.
D DOES NOT COMPLY TO JEDEC STANDARD VALUE.
E. DRAWING FILENAME: MKT-TO277A03rev5



BOTTOM VIEW - DAP OPTION

FAIRCHILD ™

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
19521 E. 32nd Pkwy, Aurora, Colorado 80011 USA
Phone: 303−675−2175 or 800−344−3860 Toll Free USA/Canada
Fax: 303−675−2176 or 800−344−3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800−282−9855 Toll Free USA/Canada
Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910
Japan Customer Focus Center
Phone: 81−3−5817−1050

ON Semiconductor Website: **www.onsemi.com**

Order Literature: http://www.onsemi.com/orderlit

For additional information, please contact your local Sales Representative