



Micro Commercial Components



Micro Commercial Components  
20736 Marilla Street Chatsworth  
CA 91311

Phone: (818) 701-4933

Fax: (818) 701-4939

# SFM11PL THRU SFM18PL

## Features

- For Surface Mount Applications
- Low Power Loss, High Efficiency
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note1)("P" Suffix designates Compliant. See ordering information)
- Welding Iron Temp: 350°C for 3s max.
- Storage Condition: Less than 30°C, RH<70%

## Maximum Ratings

- Operating Temperature: -50°C to +150°C
- Storage Temperature: -50°C to +150°C
- Maximum Thermal Resistance; 75°C/W Junction To Ambient.

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|----------------------------------------|---------------------|-----------------------------|
| SFM11PL         | S1             | 50V                                    | 35V                 | 50V                         |
| SFM12PL         | S2             | 100V                                   | 70V                 | 100V                        |
| SFM13PL         | S3             | 150V                                   | 105V                | 150V                        |
| SFM14PL         | S4             | 200V                                   | 140V                | 200V                        |
| SFM15PL         | S5             | 300V                                   | 210V                | 300V                        |
| SFM16PL         | S6             | 400V                                   | 280V                | 400V                        |
| SFM17PL         | S7             | 500V                                   | 350V                | 500V                        |
| SFM18PL         | S8             | 600V                                   | 420V                | 600V                        |

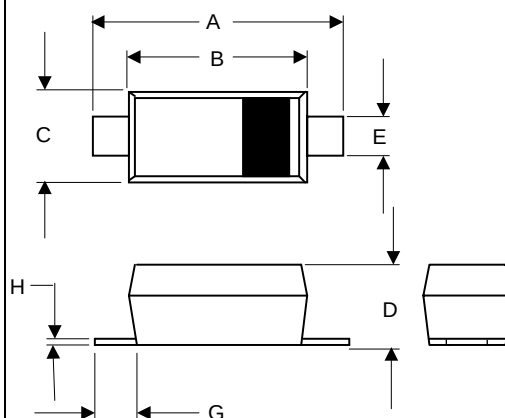
## Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                                                       |             |                                      |                                                       |
|---------------------------------------------------------------------------------------|-------------|--------------------------------------|-------------------------------------------------------|
| Average Forward Current                                                               | $I_{F(AV)}$ | 1.0A                                 | $T_a = 50^\circ\text{C}$                              |
| Peak Forward Surge Current                                                            | $I_{FSM}$   | 30A                                  | 8.3ms, half sine                                      |
| Maximum Instantaneous Forward Voltage<br>SFM11PL-14PL<br>SFM15PL-16PL<br>SFM17PL-18PL | $V_F$       | .95V<br>1.25V<br>1.70V               | $I_{FM} = 1.0A$ ;<br>$T_a = 25^\circ\text{C}$         |
| Maximum DC Reverse Current At Rated DC Blocking Voltage                               | $I_R$       | 5 $\mu\text{A}$<br>100 $\mu\text{A}$ | $T_a = 25^\circ\text{C}$<br>$T_a = 100^\circ\text{C}$ |
| Maximum Reverse Recovery Time                                                         | $T_{rr}$    | 35ns                                 | $I_F = 0.5A$ , $I_R = 1.0A$ ,<br>$I_{rr} = 0.25A$     |
| Typical Junction Capacitance                                                          | $C_J$       | 10pF                                 | Measured at 1.0MHz, $V_R = 4.0V$                      |

Note: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7.

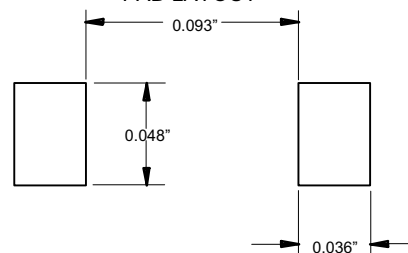
## 1 Amp Super Fast Recovery Silicon Rectifier 50 to 600 Volts

### SOD-123FL



| DIM | INCHES |       | MM    |       | NOTE |
|-----|--------|-------|-------|-------|------|
|     | MIN    | MAX   | MIN   | MAX   |      |
| A   | .140   | .152  | 3.55  | 3.85  |      |
| B   | .100   | .122  | 2.55  | 3.10  |      |
| C   | .055   | .075  | 1.40  | 1.90  |      |
| D   | .035   | .053  | 0.90  | 1.35  |      |
| E   | .020   | .041  | 0.50  | 1.05  |      |
| G   | .010   | ----- | 0.25  | ----- |      |
| H   | -----  | .010  | ----- | .25   |      |

### SUGGESTED SOLDER PAD LAYOUT



# SFM11PL THRU SFM18PL

## RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CHARACTERISTICS

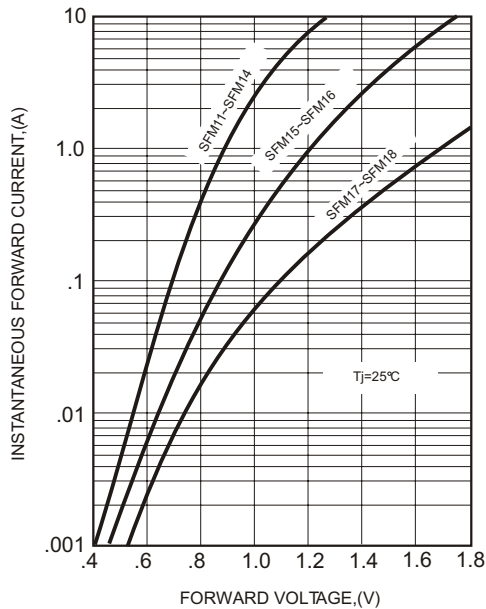


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

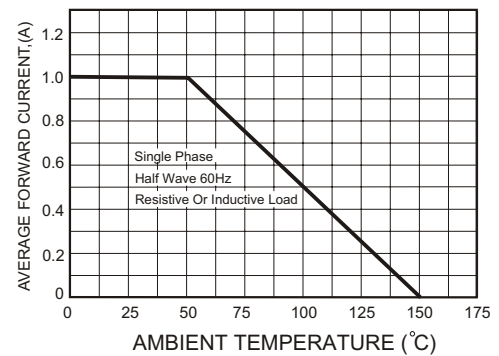


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

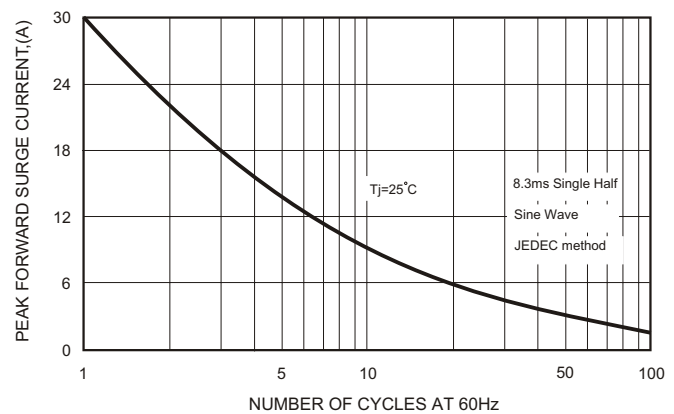
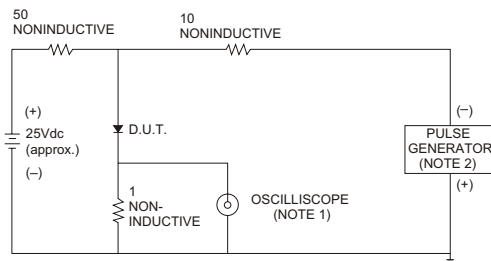


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

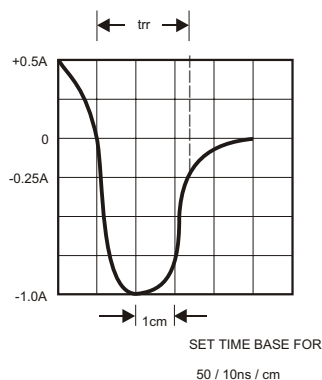
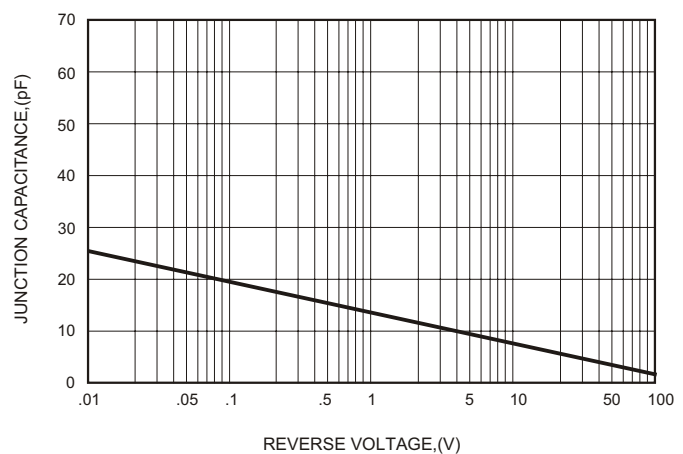


FIG.5-TYPICAL JUNCTION CAPACITANCE





TM

Micro Commercial Components

**Ordering Information :**

| Device         | Packing                 |
|----------------|-------------------------|
| Part Number-TP | Tape&Reel: 2.5Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

**\*\*\*IMPORTANT NOTICE\*\*\***

**Micro Commercial Components Corp.** reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp .** does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp .** and all the companies whose products are represented on our website, harmless against all damages.

**\*\*\*LIFE SUPPORT\*\*\***

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

**\*\*\*CUSTOMER AWARENESS\*\*\***

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

---

**www.mccsemi.com**

---