



Micro Commercial Components

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## FSM11PL THRU FSM16PL

### Features

- For Surface Mount Application
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Glass Passivated Junction
- Super Fast Recovery Time For High Efficiency

### Maximum Ratings

- Operating Temperature( $T_J$ ):  $-65^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- Storage Temperature( $T_{STG}$ ):  $-65^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- Maximum Thermal Resistance( $R_{thJA}$ ):  $75^{\circ}\text{C/W}^*$

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|----------------------------------------|---------------------|-----------------------------|
| FSM11PL         | F1             | 50V                                    | 35V                 | 50V                         |
| FSM12PL         | F2             | 100V                                   | 70V                 | 100V                        |
| FSM13PL         | F3             | 200V                                   | 140V                | 200V                        |
| FSM14PL         | F4             | 400V                                   | 280V                | 400V                        |
| FSM15PL         | F5             | 600V                                   | 420V                | 600V                        |
| FSM16PL         | F6             | 800V                                   | 560V                | 800V                        |

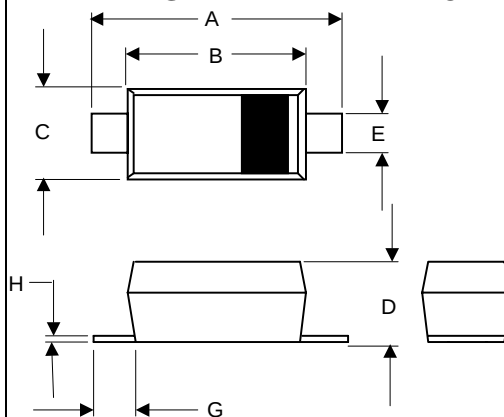
### Electrical Characteristics @ $25^{\circ}\text{C}$ Unless Otherwise Specified

|                                                                     |             |                                        |                                                                    |
|---------------------------------------------------------------------|-------------|----------------------------------------|--------------------------------------------------------------------|
| Average Forward Current                                             | $I_{F(AV)}$ | 1.0 A                                  | $T_L = 110^{\circ}\text{C}$                                        |
| Peak Forward Surge Current                                          | $I_{FSM}$   | 30.0A                                  | 8.3ms, half sine                                                   |
| Maximum Instantaneous Forward Voltage                               | $V_F$       | 1.3V                                   | $I_{FM} = 1.0\text{A};$<br>$T_A = 25^{\circ}\text{C}$              |
| Maximum DC Reverse Current At Rated DC Blocking Voltage             | $I_R$       | 5.0 $\mu\text{A}$<br>100 $\mu\text{A}$ | $T_A = 25^{\circ}\text{C}$<br>$T_A = 55^{\circ}\text{C}$           |
| Maximum Reverse Recovery Time<br>FSM11PL-14PL<br>FSM15PL<br>FSM16PL | $T_{rr}$    | 150ns<br>250ns<br>500ns                | $I_F = 0.5\text{A}, I_R = 1.0\text{A},$<br>$I_{rr} = 0.25\text{A}$ |
| Typical Junction Capacitance                                        | $C_J$       | 15pF                                   | Measured at 1.0MHz, $V_R = 4.0\text{V}$                            |

\*6.0mm<sup>2</sup> copper pads to each terminal

## 1.0 Amp Super Fast Recovery Rectifier 50 to 800 Volts

### POWERLITE-123



| DIM | INCHES |       | MM    |       | NOTE |
|-----|--------|-------|-------|-------|------|
|     | MIN    | MAX   | MIN   | MAX   |      |
| A   | .140   | .152  | 3.55  | 3.85  |      |
| B   | .100   | .112  | 2.55  | 2.85  |      |
| C   | .055   | .071  | 1.40  | 1.80  |      |
| D   | .037   | .053  | 0.95  | 1.35  |      |
| E   | .020   | .039  | 0.50  | 1.00  |      |
| G   | .010   | ----- | 0.25  | ----- |      |
| H   | -----  | .008  | ----- | .20   |      |

### SUGGESTED SOLDER PAD LAYOUT

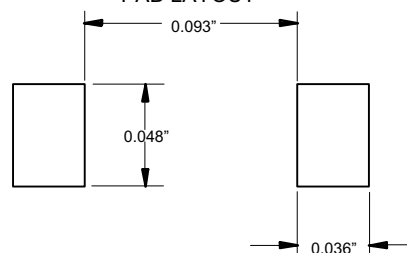


Figure 1

Typical Reverse Characteristics

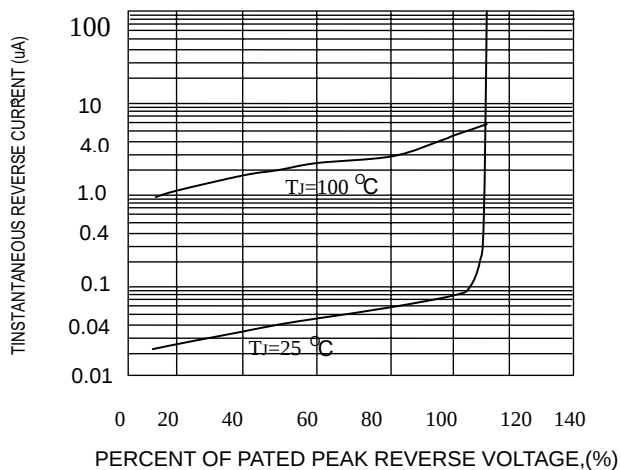


Figure 2

TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

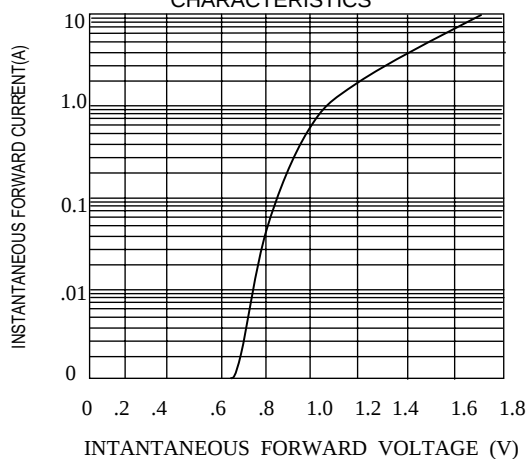


Figure 3

NON-REPETITIVE FORWARD SURGE CURRENT

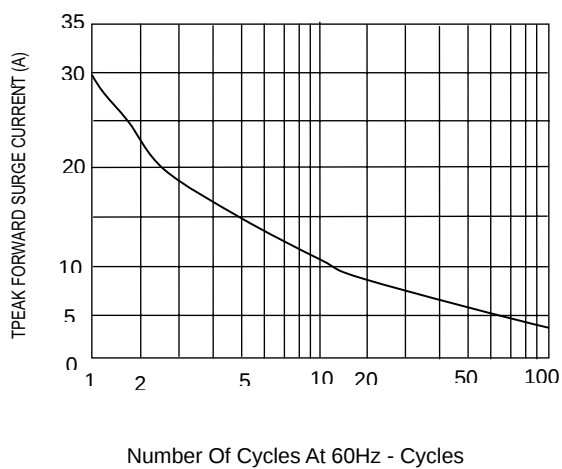
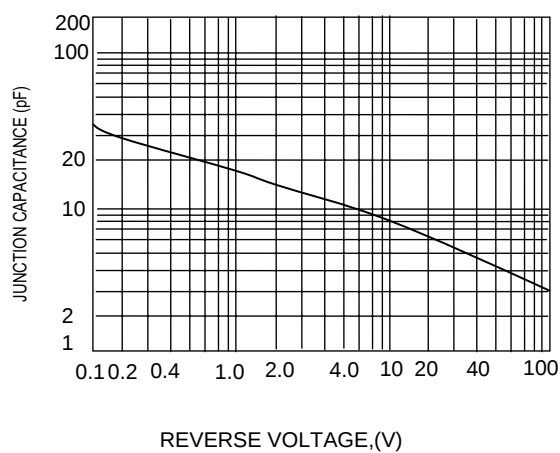


Figure 4

TYPICAL CAPACITANCE



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