

### Features

- For Surface Mount Application
- Fast Recovery Time For High Efficiency
- Glass Passivated Junction
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant(Note 2)("P" Suffix Designates Compliant. See Ordering Information)

### Maximum Ratings

- Operating Junction Temperature Range: -65°C to +150°C
- Storage Temperature Range: -65°C to +150°C
- Maximum Thermal Resistance: 75°C/W Junction to Ambient(Note 3)

| 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                        |
| FSM17PL         | F7             | 1000V                                  | 700V                | 1000V                       |

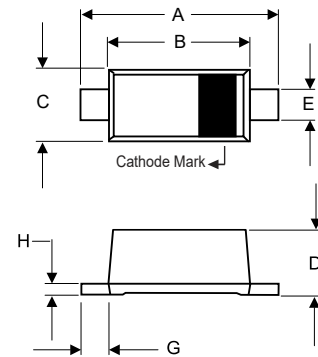
### Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                                                |             |                         |                                                    |
|--------------------------------------------------------------------------------|-------------|-------------------------|----------------------------------------------------|
| Average Forward Current                                                        | $I_{F(AV)}$ | 1.0A                    | $T_L=110^\circ\text{C}$                            |
| Peak Forward Surge Current                                                     | $I_{FSM}$   | 30A                     | 8.3ms,Half Sine                                    |
| Maximum Instantaneous Forward Voltage                                          | $V_F$       | 1.30V                   | $I_{FM}=1.0A;$<br>$T_J=25^\circ\text{C}$           |
| Maximum DC Reverse Current At Rated DC Blocking Voltage                        | $I_R$       | 1.0μA<br>100μA          | $T_J=25^\circ\text{C};$<br>$T_J=125^\circ\text{C}$ |
| Maximum Reverse Recovery Time<br>FSM11PL~FSM14PL<br>FSM15PL<br>FSM16PL~FSM17PL | $t_{rr}$    | 150ns<br>250ns<br>500ns | $I_F=0.5A; I_R=1.0A;$<br>$I_{rr}=0.25A$            |
| Typical Junction Capacitance                                                   | $C_J$       | 15pF                    | Measured at 1.0MHz<br>$V_R=4.0V$                   |

- Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.  
2. High Temperature Solder Exemptions Applied, See EU Directive Annex 7a.  
3. 6.0mm<sup>2</sup> Copper Pads To Each Terminal

# 1.0 Amp Fast Recovery Rectifier 50 to 1000 Volts

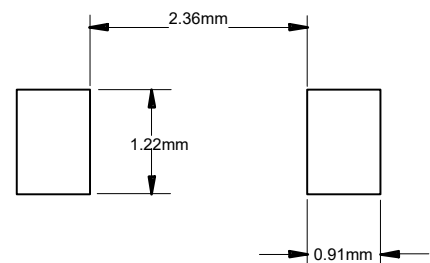
### SOD-123FL



### DIMENSIONS

| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.130  | 0.152 | 3.30 | 3.85 |      |
| B   | 0.100  | 0.122 | 2.55 | 3.10 |      |
| C   | 0.055  | 0.075 | 1.40 | 1.90 |      |
| D   | 0.035  | 0.053 | 0.90 | 1.35 |      |
| E   | 0.020  | 0.041 | 0.50 | 1.05 |      |
| G   | 0.010  | ----  | 0.25 | ---- |      |
| H   | ----   | 0.010 | ---- | 0.25 |      |

### Suggested Solder Pad Layout



## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

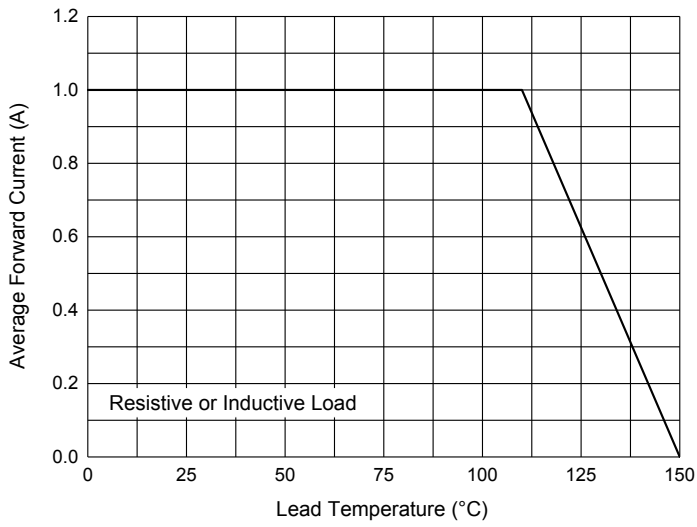


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

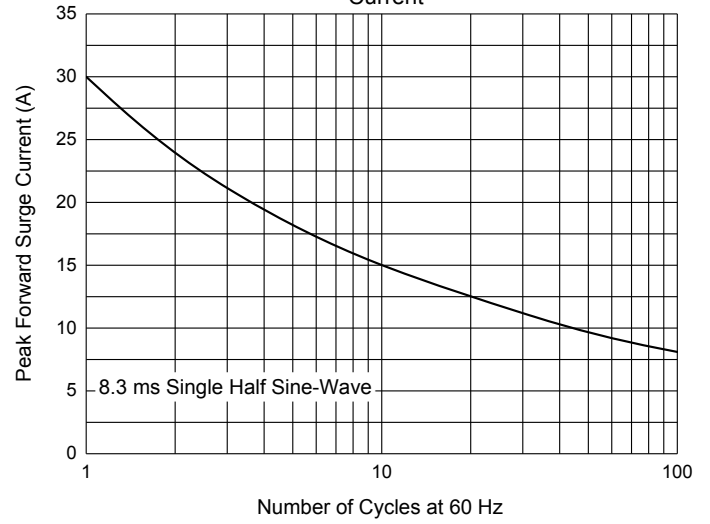


Fig. 3 - Typical Instantaneous Forward Characteristics

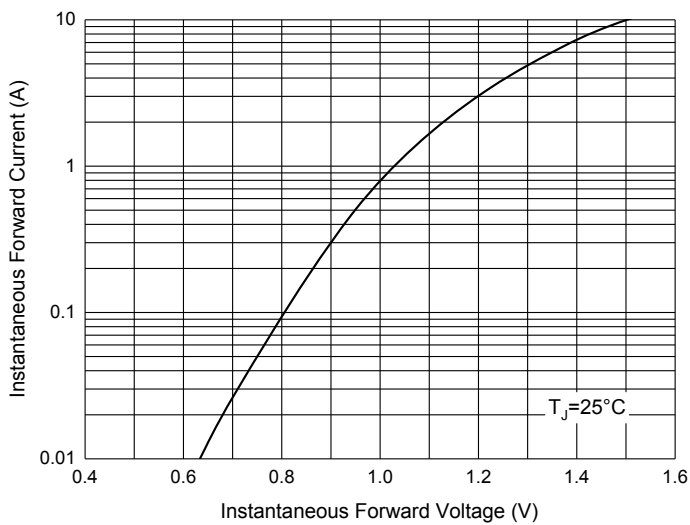
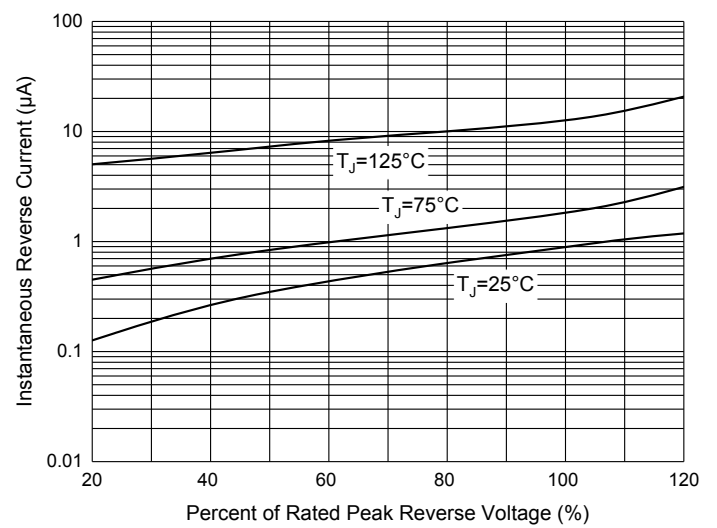


Fig. 4 - Typical Reverse Characteristics



## Ordering Information

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

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