



Micro Commercial Components



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SM4001PL thru SM4007PL

1.0 Ampere Silicon Rectifier 50 to 1000 Volts

Features

- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Low Leakage Current
- Glass Passivated Junction
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

Maximum Ratings

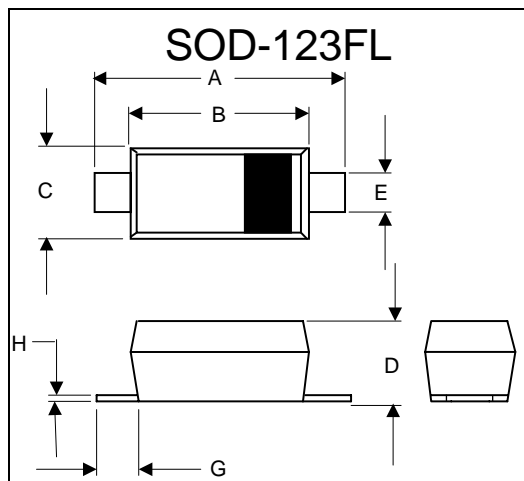
- Operating Temperature(Tj): -65°C to +175°C
- Storage Temperature(Tstg): -65°C to +175°C
- Typical Thermal Resistance(RthJA): 50°C/W

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|---------------------|-----------------------------|
| SM4001PL | A1 | 50V | 35V | 50V |
| SM4002PL | A2 | 100V | 70V | 100V |
| SM4003PL | A3 | 200V | 140V | 200V |
| SM4004PL | A4 | 400V | 280V | 400V |
| SM4005PL | A5 | 600V | 420V | 600V |
| SM4006PL | A6 | 800V | 560V | 800V |
| SM4007PL | A7 | 1000V | 700V | 1000V |

Electrical Characteristics @ 25°C Unless Otherwise Specified

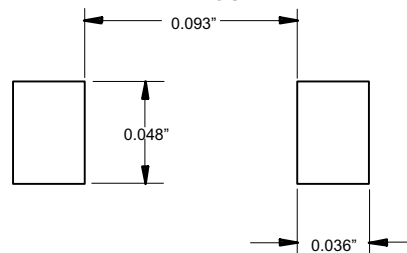
| | | | |
|---|-------------|---------------|---|
| Average Forward Current | $I_{F(AV)}$ | 1.0A | $T_A = 75^\circ\text{C}$ |
| Peak Forward Surge Current | I_{FSM} | 25A | 8.3ms, half sine |
| Maximum Instantaneous Forward Voltage | V_F | 1.1V | $T_A = 25^\circ\text{C}$ $I_F = 1\text{A}$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | I_R | 5.0µA 50µA | $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$ |
| Maximum Full Load Reverse Current Average, Full Cycle 9.5mm Lead Length | I_R | 30µA | $T_L = 75^\circ\text{C}$ |
| Typical Junction Capacitance | C_J | 15pF | Measured at 1.0MHz, $V_R = 4.0\text{V}$ |

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



| 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

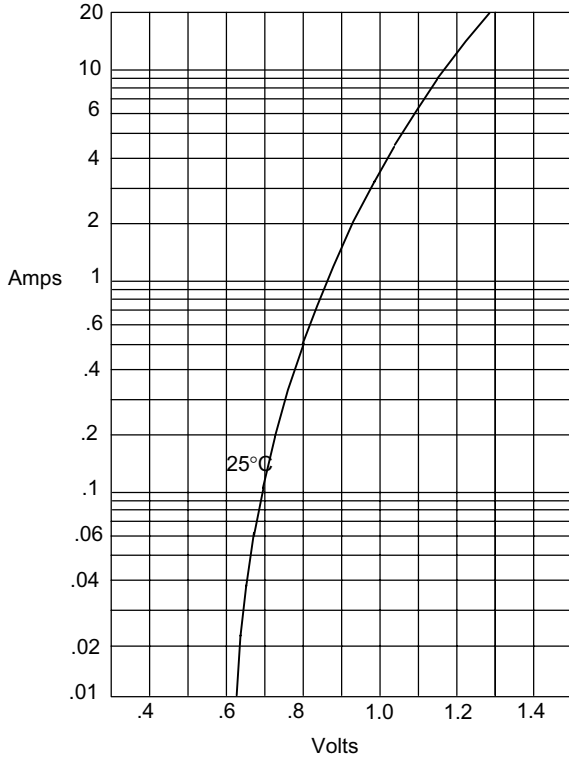


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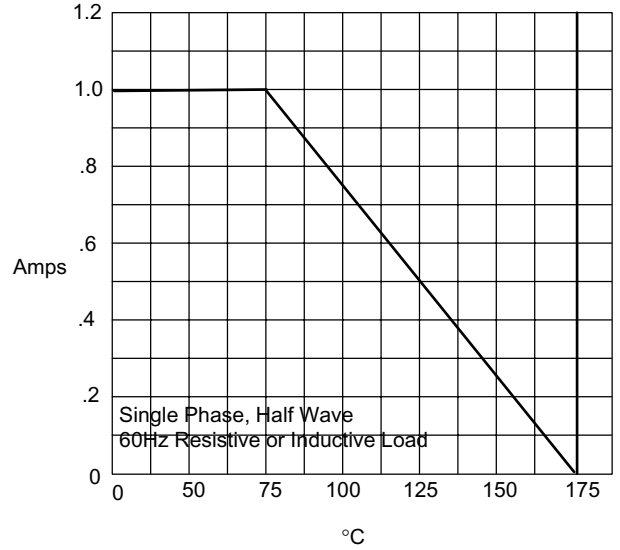
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Figure 1
Typical Forward Characteristics



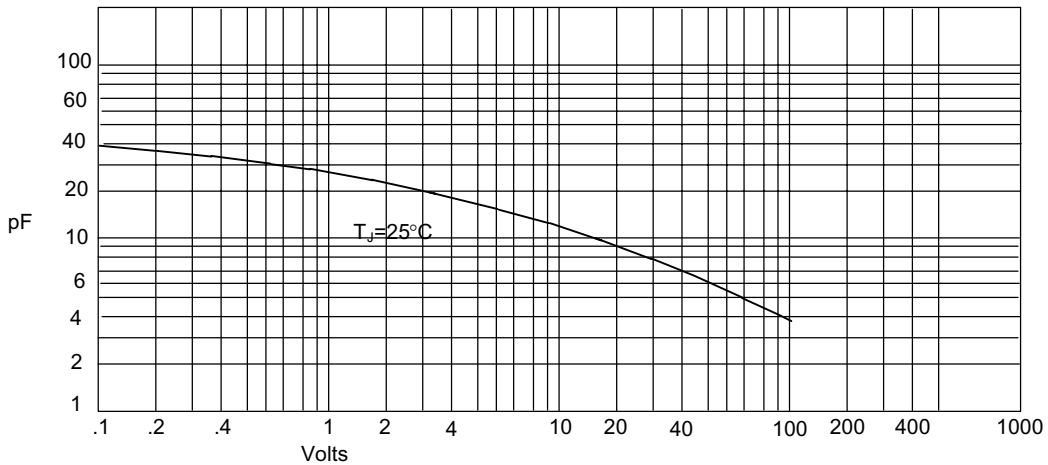
Instantaneous Forward Current - Amperes versus
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



Average Forward Rectified Current - Amperes versus
Ambient Temperature - °C

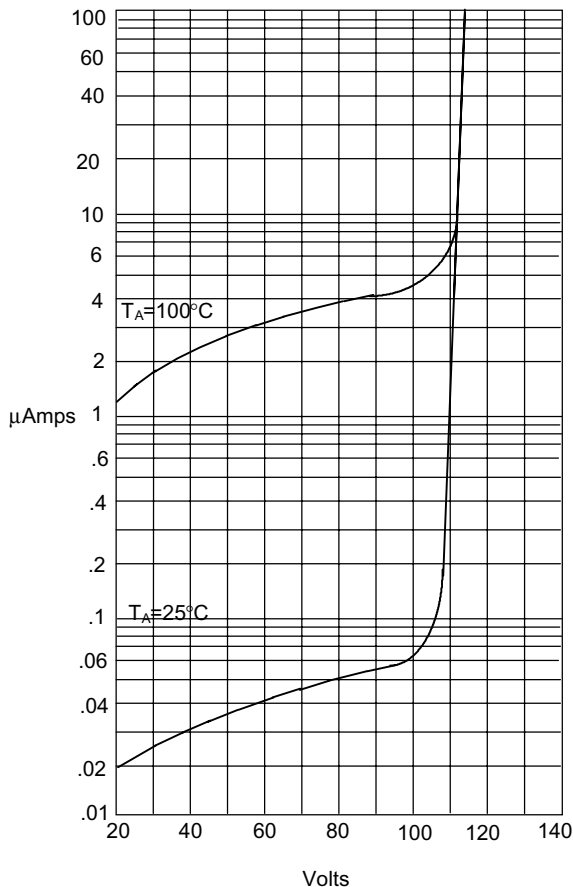
Figure 3
Junction Capacitance



Junction Capacitance - pF versus
Reverse Voltage - Volts

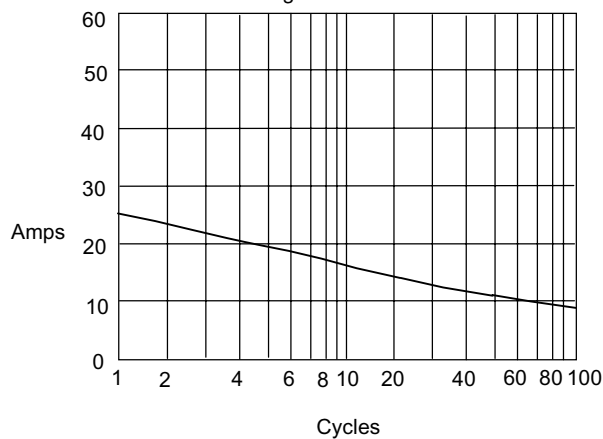
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Figure 4
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - MicroAmperes versus
Percent Of Rated Peak Reverse Voltage - Volts

Figure 5
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus
Number Of Cycles At 60Hz - Cycles



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Ordering Information :

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

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