Micro Commercial Components

Micro Commercial Components
20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

# SM4001PL thru SM4007PL

## 1.0 Ampere Silion Rectifier 50 to 1000 Volts

## Features

- For Surface Mount Application
- Low Leakage Current
- Glass Passivated Junction
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0

## Maximum Ratings

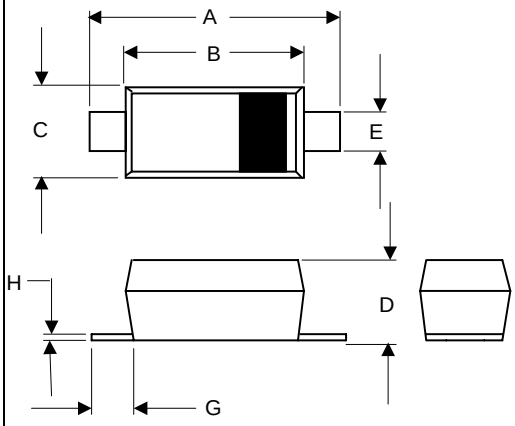
- Operating Temperature(Tj): -65℃ to +175℃
- Storage Temperature($T_{STG}$): -65℃ to +175℃
- Typical Thermal Resistance($R_{thJA}$): 50℃/W

| 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℃ Unless Otherwise Specified

| | | | |
|---|---|---|---|
| Average Forward Current | $I_{F(AV)}$ | 1.0 A | $T_A$ = 75℃ |
| Peak Forward Surge Current | $I_{FSM}$ | 30.0A | 8.3ms, half sine |
| Maximum Instantaneous Forward Voltage | $V_F$ | 1.1V | $T_A$ = 25℃<br>$I_F$=1A |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$ | 5.0μA<br>50uA | $T_A$ = 25℃<br>$T_A$=100 ℃ |
| Maximum Full Load Reverse Current Average ,Full Cycle 9.5mm Lead Length | $I_R$ | 30uA | $T_L$=75 ℃ |
| Typical Junction Capacitance | $C_J$ | 15pF | Measured at 1.0MHz, $V_R$=4.0V |

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

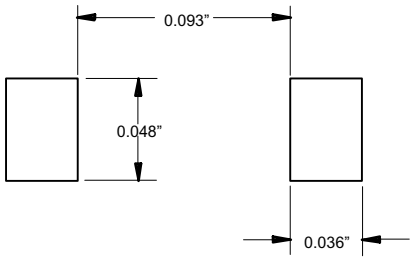
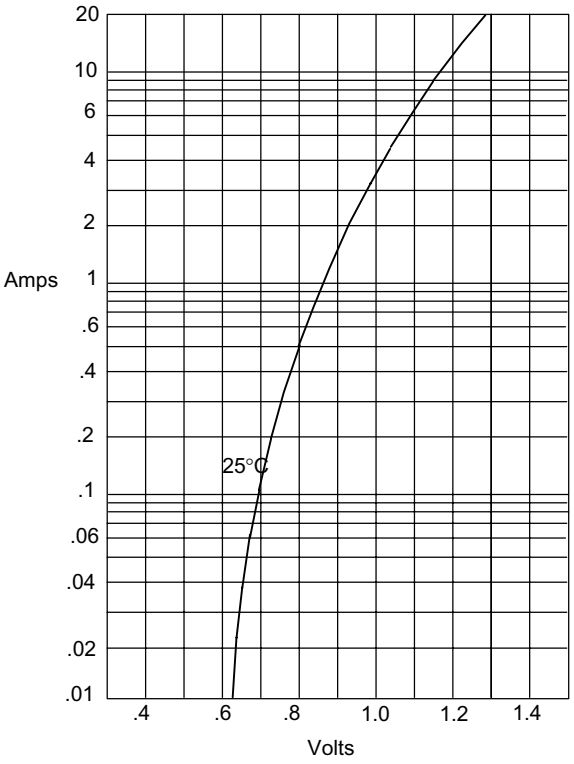
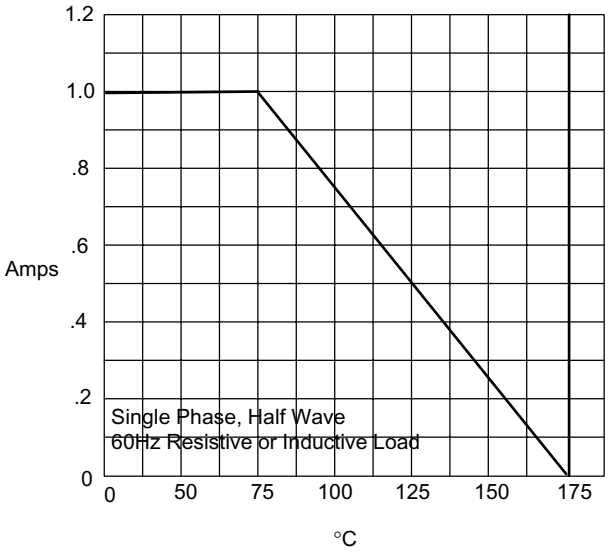


Figure 1
Typical Forward Characteristics



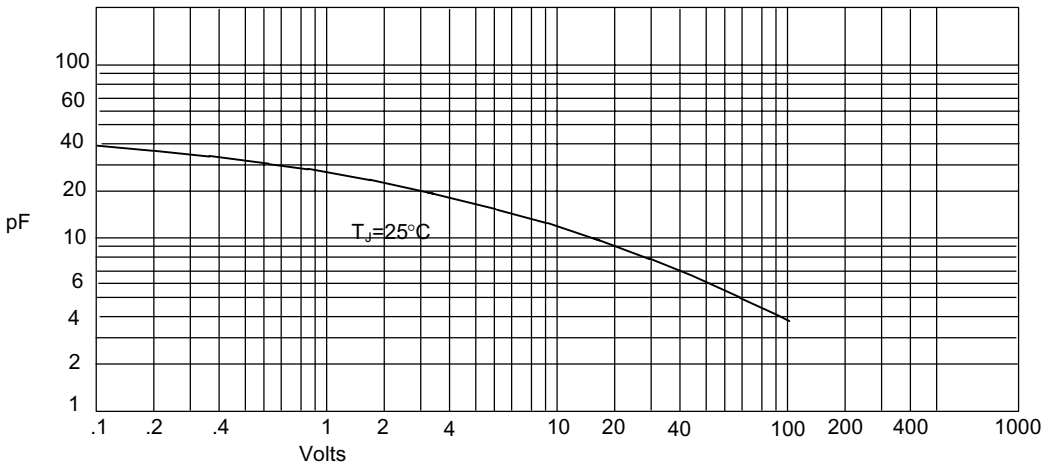

Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



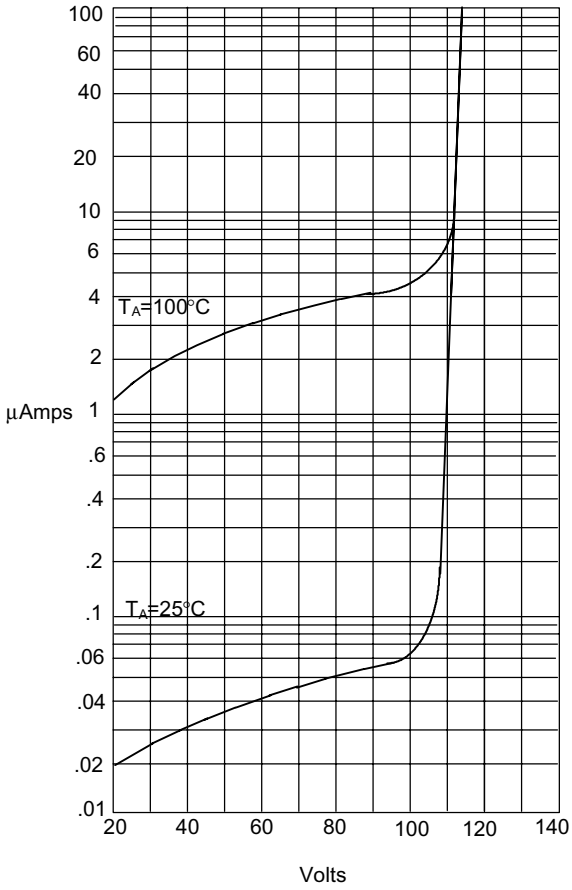

Average Forward Rectified Current - Amperes *versus*
Ambient Temperature -°C

Figure 3
Junction Capacitance



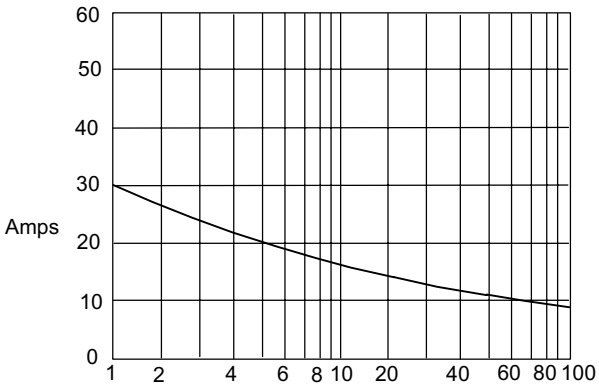

Junction Capacitance - pF *versus*
Reverse Voltage - Volts

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

| ***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. |
| ***APPLICATIONS DISCLAIMER*** |
| Products offer by *Micro Commercial Components Corp*. are not intended for use in Medical, Aerospace or Military Applications. |