



Micro Commercial Components

# M1 THRU M7

## Features

- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL rating 1
- Easy Pick And Place
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)

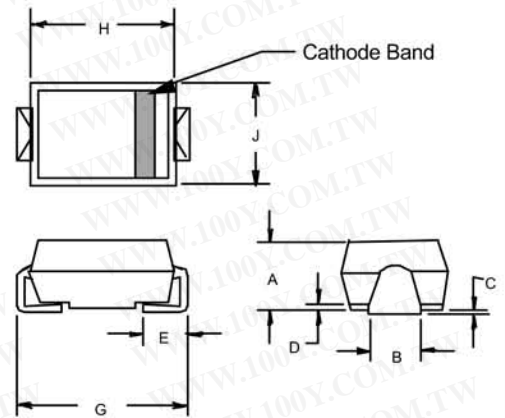
## Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 15°C/W Junction To Lead

| MCC Catalog Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|--------------------|----------------|--|---------------------|-----------------------------|
| M1                 | M1             | 50V                                    | 35V                 | 50V                         |
| M2                 | M2             | 100V                                   | 70V                 | 100V                        |
| M3                 | M3             | 200V                                   | 140V                | 200V                        |
| M4                 | M4             | 400V                                   | 280V                | 400V                        |
| M5                 | M5             | 600V                                   | 420V                | 600V                        |
| M6                 | M6             | 800V                                   | 560V                | 800V                        |
| M7                 | M7             | 1000V                                  | 700V                | 1000V                       |

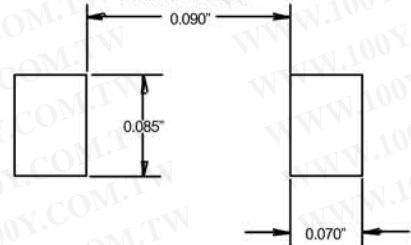
## 1.0 Amp Silicon Rectifier 50 to 1000 Volts

### DO-214AC (SMAE)



| DIM | INCHES |      | MM   |      | NOTE |
|-----|--------|------|------|------|------|
|     | MIN    | MAX  | MIN  | MAX  |      |
| A   | .079   | .096 | 2.01 | 2.44 |      |
| B   | .050   | .075 | 1.27 | 1.90 |      |
| C   | .002   | .008 | .05  | .20  |      |
| D   | —      | .02  | —    | .51  |      |
| E   | .030   | .060 | .76  | 1.52 |      |
| G   | .189   | .208 | 4.80 | 5.30 |      |
| H   | .157   | .180 | 4.00 | 4.57 |      |
| J   | .090   | .115 | 2.29 | 2.92 |      |

### SUGGESTED SOLDER PAD LAYOUT



## 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                              | $I_{FSM}$   | 30A                                  | 8.3ms, half sine,                                     |
| Maximum Instantaneous Forward Voltage                   | $V_F$       | 1.1V                                 | $I_{FM} = 1.0A;$<br>$T_J = 25^\circ\text{C}^*$        |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$       | 10 $\mu\text{A}$<br>50 $\mu\text{A}$ | $T_J = 25^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$ |
| Typical Junction Capacitance                            | $C_J$       | 15pF                                 | Measured at<br>1.0MHz, $V_R=4.0V$                     |

\*Pulse test: Pulse width 300  $\mu\text{sec}$ , Duty cycle 2%

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

# M1 thru M7

Figure 1  
Typical Forward Characteristics

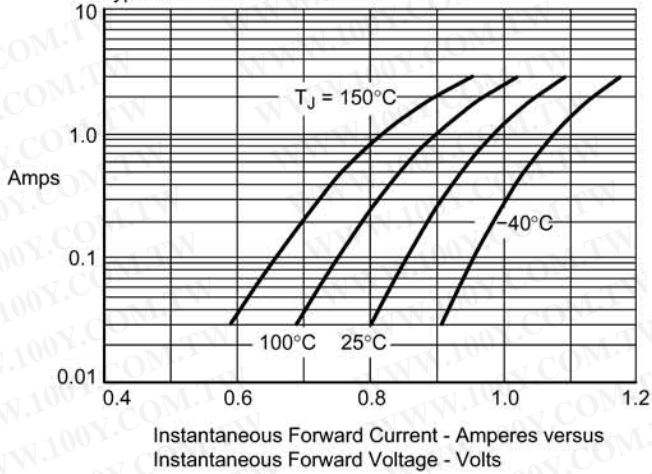


Figure 2  
Maximum Forward Surge Current

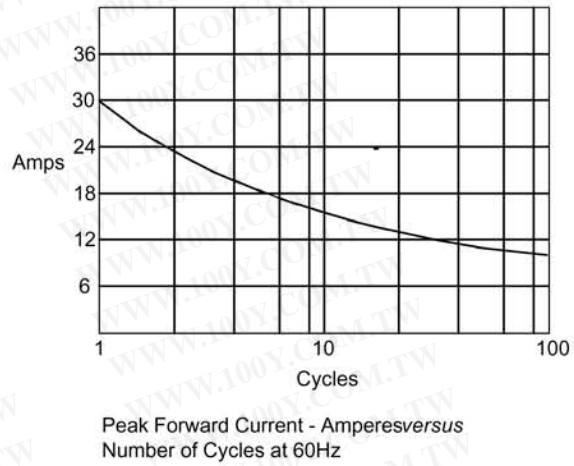


Figure 3  
Forward Derating Curve

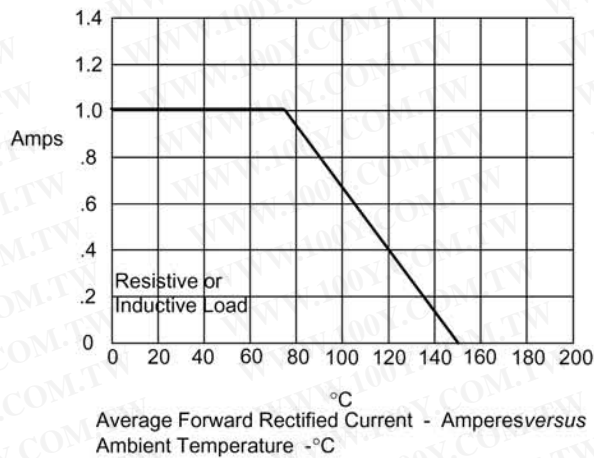
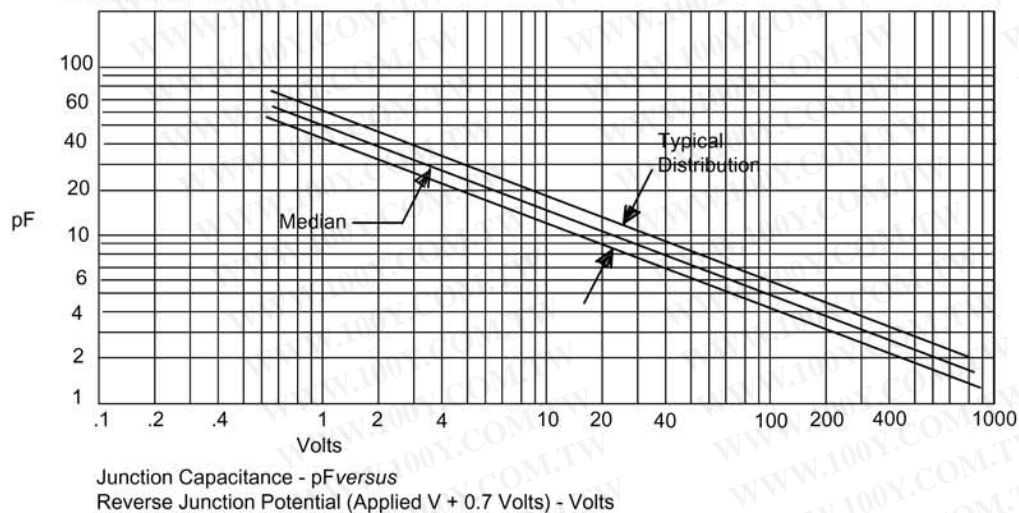


Figure 4  
Junction Capacitance

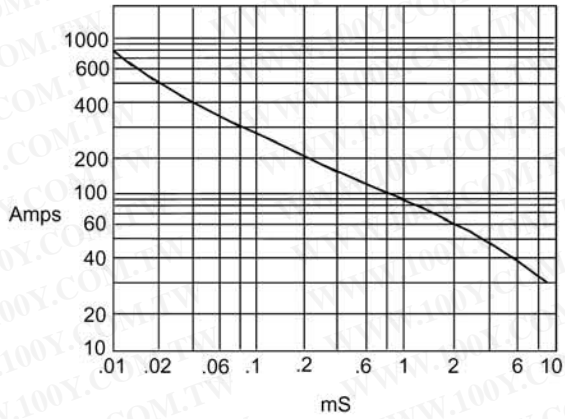


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Figure 5  
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus  
Pulse Duration - Milliseconds (mS)





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## Ordering Information

| Device           | Packing                                    |
|------------------|--|
| (Part Number)-TP | Tape&Reel;2Kpcs/Reel (7" );6Kpcs/Reel(13") |

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