



Micro Commercial Components

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# S2A THRU S2M

## Features

- For Surface Mount Applications
- Extremely Low Thermal Resistance
- Easy Pick And Place
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0

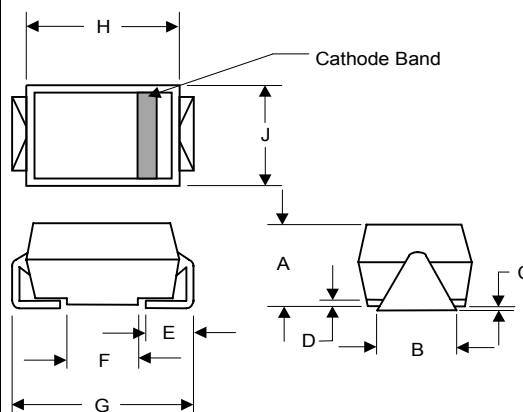
## 2 Amp Silicon Rectifier 50 to 1000 Volts

## Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 16°C/W Junction To Lead

| MCC Catalog Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|--------------------|----------------|--|---------------------|-----------------------------|
| S2A                | S2A            | 50V                                    | 35V                 | 50V                         |
| S2B                | S2B            | 100V                                   | 70V                 | 100V                        |
| S2D                | S2D            | 200V                                   | 140V                | 200V                        |
| S2G                | S2G            | 400V                                   | 280V                | 400V                        |
| S2J                | S2J            | 600V                                   | 420V                | 600V                        |
| S2K                | S2K            | 800V                                   | 560V                | 800V                        |
| S2M                | S2M            | 1000V                                  | 700V                | 1000V                       |

## DO-214AA (SMBJ) (Round Lead)



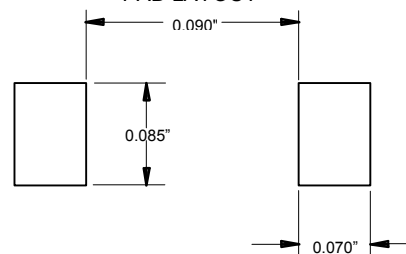
| DIM | INCHES |      | MM   |      | NOTE |
|-----|--------|------|------|------|------|
|     | MIN    | MAX  | MIN  | MAX  |      |
| A   | .078   | .116 | 1.98 | 2.95 |      |
| B   | .075   | .089 | 1.90 | 2.25 |      |
| C   | .002   | .008 | .05  | .20  |      |
| D   | ----   | .02  | ---- | .51  |      |
| E   | .035   | .055 | .90  | 1.40 |      |
| F   | .065   | .091 | 1.65 | 2.32 |      |
| G   | .205   | .224 | 5.21 | 5.69 |      |
| H   | .160   | .180 | 4.06 | 4.57 |      |
| J   | .130   | .155 | 3.30 | 3.94 |      |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

|   |             |                                      |   |
|---|-------------|--------------------------------------|---|
| Average Forward current                                 | $I_{F(AV)}$ | 2.0A                                 | $T_J = 75^\circ\text{C}$                                      |
| Peak Forward Surge Current                              | $I_{FSM}$   | 50A                                  | 8.3ms, half sine, $T_J = 150^\circ\text{C}$                   |
| Maximum Instantaneous Forward Voltage                   | $V_F$       | 1.15V                                | $I_{FM} = 2.0\text{A}; T_J = 25^\circ\text{C}^*$              |
| 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>$T_J = 125^\circ\text{C}$         |
| Maximum Reverse Recovery Time                           | $T_{rr}$    | 2.0 $\mu\text{s}$                    | $I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{rr} = 0.25\text{A}$ |
| Typical Junction Capacitance                            | $C_J$       | 30pF                                 | Measured at 1.0MHz, $V_R = 4.0\text{V}$                       |

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

## SUGGESTED SOLDER PAD LAYOUT

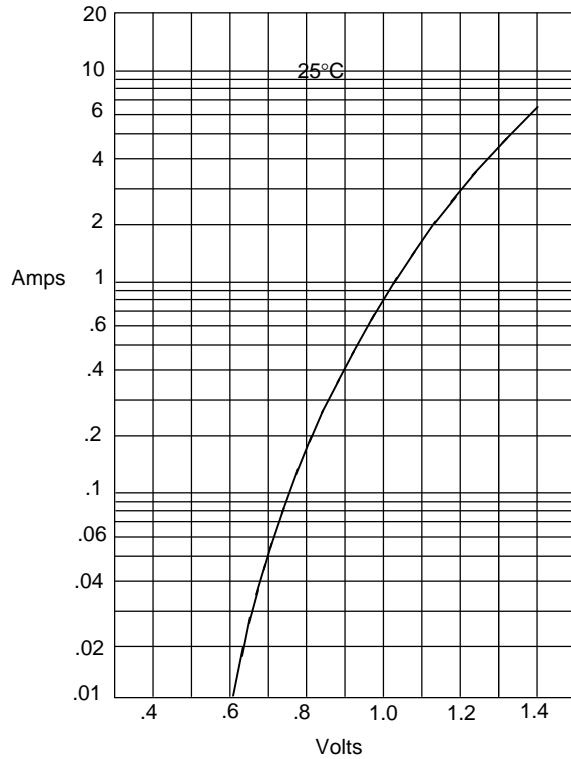


# S2A thru S2M



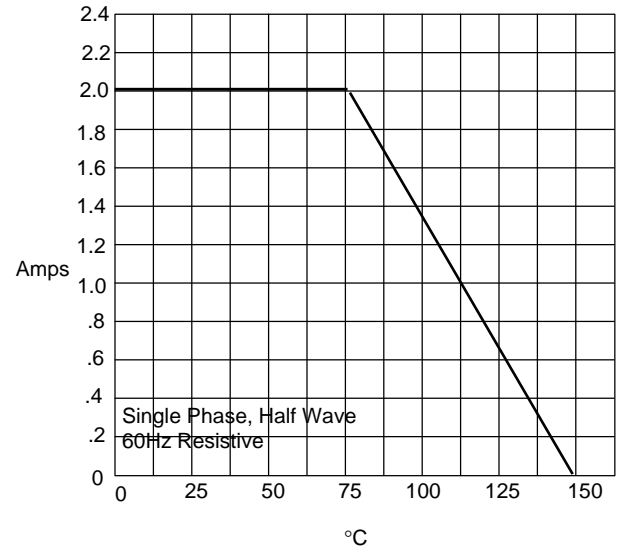
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Figure 1  
Typical Forward Characteristics



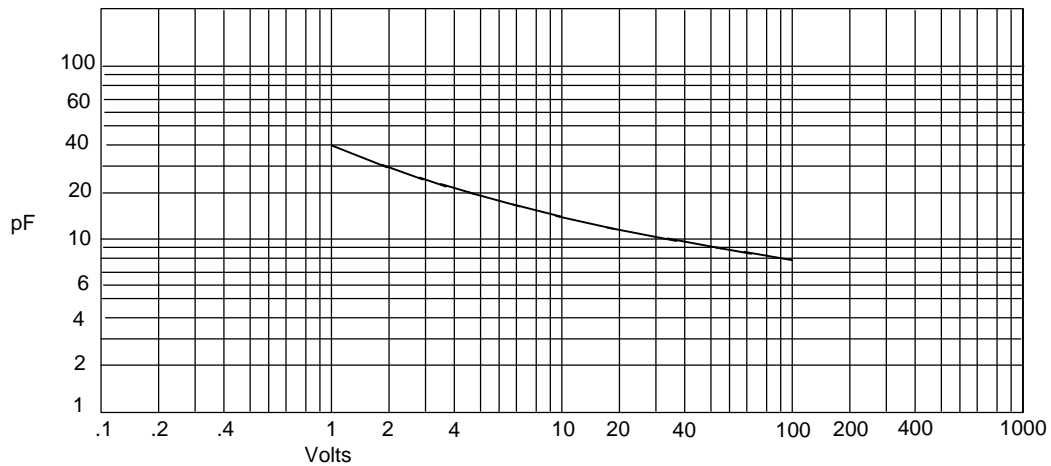
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



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

Figure 3  
Junction Capacitance

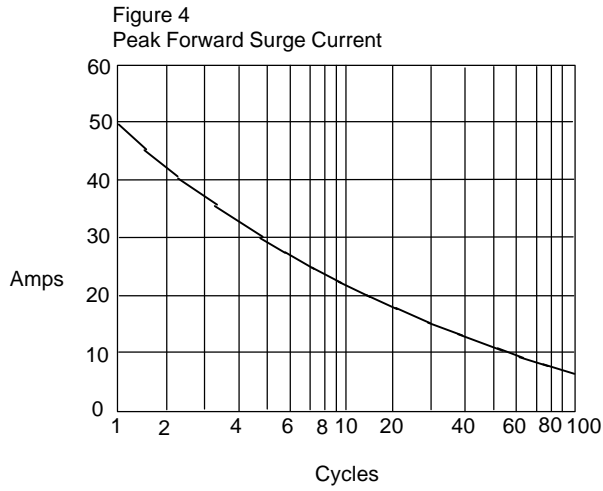


Junction Capacitance - pF versus  
Reverse Junction Potential (Applied V + 0.7 Volts) - Volts

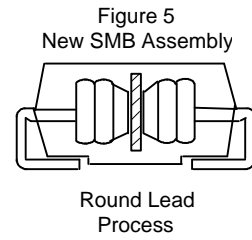
# S2A thru S2M



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





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