



Micro Commercial Components  
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# S8A THRU S8M

## Features

- For Surface Mount Applications
- Extremely Low Thermal Resistance
- Easy Pick And Place
- High Temp Soldering: 250°C for 10 Seconds At Terminals
- High Current Capability

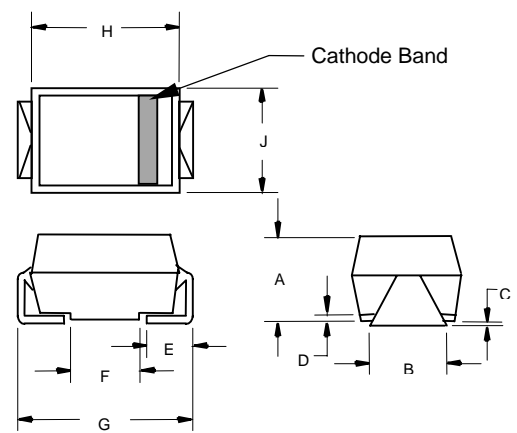
## 8 Amp Silicon Rectifier 50 to 1000 Volts

## Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance; 8°C/W Junction To Lead

| Microsemi Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------------|----------------|--|---------------------|-----------------------------|
| S8A                   | S8A            | 50V                                    | 35V                 | 50V                         |
| S8B                   | S8B            | 100V                                   | 70V                 | 100V                        |
| S8D                   | S8D            | 200V                                   | 140V                | 200V                        |
| S8G                   | S8G            | 400V                                   | 280V                | 400V                        |
| S8J                   | S8J            | 600V                                   | 420V                | 600V                        |
| S8K                   | S8K            | 800V                                   | 560V                | 800V                        |
| S8M                   | S8M            | 1000V                                  | 700V                | 1000V                       |

## DO-214AB (SMCJ) (Round Lead)



| DIM | INCHES |      | MM   |      | NOTE |
|-----|--------|------|------|------|------|
|     | MIN    | MAX  | MIN  | MAX  |      |
| A   | .200   | .214 | 5.08 | 5.43 |      |
| B   | .177   | .203 | 4.70 | 5.30 |      |
| C   | .002   | .005 | .05  | .13  |      |
| D   | ---    | .02  | ---  | .51  |      |
| E   | .053   | .067 | 1.35 | 1.70 |      |
| F   | .168   | .179 | 4.27 | 4.55 |      |
| G   | .320   | .330 | 8.13 | 8.38 |      |
| H   | .239   | .243 | 6.08 | 6.18 |      |
| J   | .234   | .240 | 5.95 | 6.10 |      |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

|   |             |                                       |   |
|---|-------------|---------------------------------------|---|
| Average Forward Current                                 | $I_{F(AV)}$ | 8.0A                                  | $T_J = 75^\circ\text{C}$                              |
| Peak Forward Surge Current                              | $I_{FSM}$   | 300A                                  | 8.3ms, half sine                                      |
| Maximum Instantaneous Forward Voltage                   | $V_F$       | 1.20V                                 | $I_{FM} = 8.0\text{A}; T_J = 25^\circ\text{C}^*$      |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$       | 10 $\mu\text{A}$<br>100 $\mu\text{A}$ | $T_J = 25^\circ\text{C}$<br>$T_J = 100^\circ\text{C}$ |
| Typical Junction Capacitance                            | $C_J$       | 150pF                                 | Measured at 1.0MHz, $V_R=4.0\text{V}$                 |

\*Pulse test: Pulse width 200  $\mu\text{sec}$ , Duty cycle 2%

## SUGGESTED SOLDER PAD LAYOUT

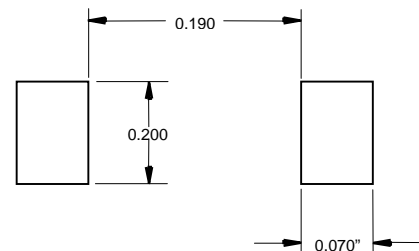


Figure 1  
Typical Forward Characteristics

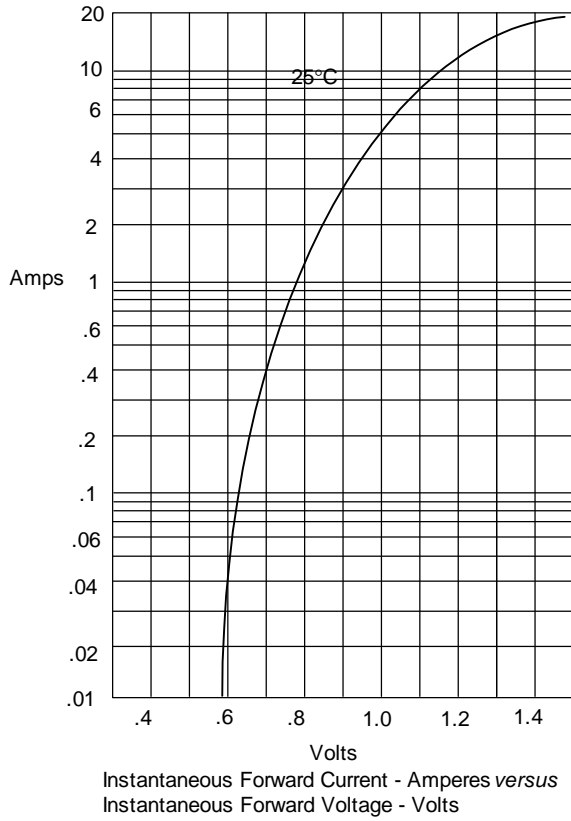


Figure 2  
Forward Derating Curve

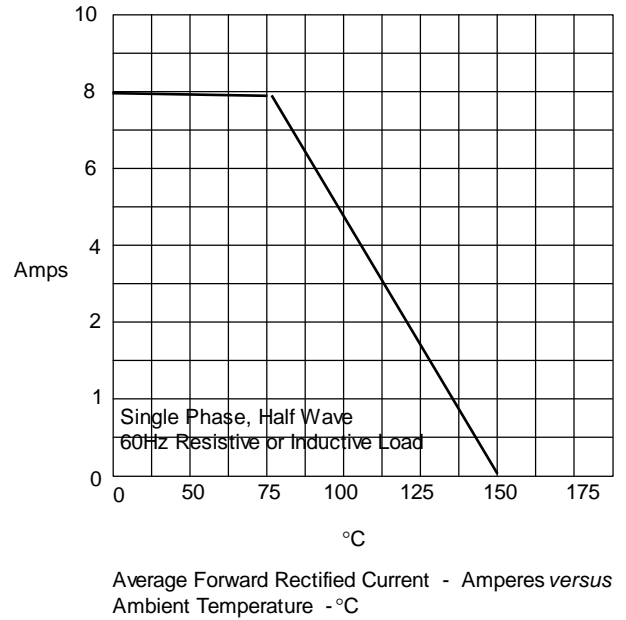


Figure 4  
Peak Forward Surge Current

