



Micro Commercial Components

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S5AL THRU S5ML

5 Amp Silicon Rectifier 50 to 1000 Volts

Features

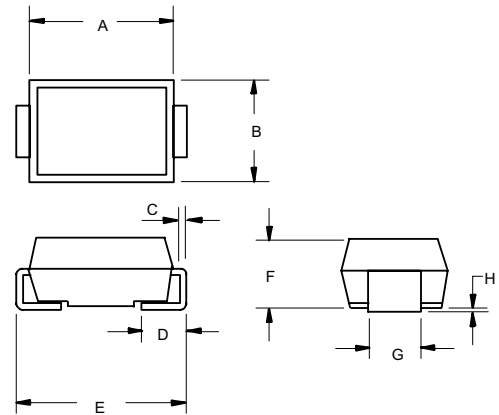
- For Surface Mount Applications
- Extremely Low Thermal Resistance
- High Current Capability
- High Temp Soldering: 260°C for 10 Seconds At Terminals
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0

Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|---------------------|-----------------------------|
| S5AL | S5A | 50V | 35V | 50V |
| S5BL | S5B | 100V | 70V | 100V |
| S5DL | S5D | 200V | 140V | 200V |
| S5GL | S5G | 400V | 280V | 400V |
| S5JL | S5J | 600V | 420V | 600V |
| S5KL | S5K | 800V | 560V | 800V |
| S5ML | S5M | 1000V | 700V | 1000V |

DO-214AB (SMCJ) (LEAD FRAME)



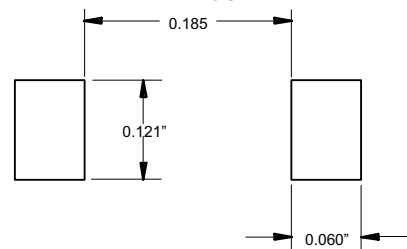
| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|------|-------|-------|------|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | .260 | .280 | 6.60 | 7.11 | |
| B | .220 | .245 | 5.59 | 6.22 | |
| C | .006 | .012 | 0.15 | 0.31 | |
| D | .030 | .060 | 0.76 | 1.52 | |
| E | .305 | .320 | 7.75 | 8.13 | |
| F | .079 | .103 | 2.00 | 2.62 | |
| G | .108 | .128 | 2.75 | 3.25 | |
| H | .002 | .008 | 0.050 | 0.203 | |

Electrical Characteristics @ 25°C Unless Otherwise Specified

| | | | |
|---|-------------|-------------|---|
| Average Forward Current | $I_{F(AV)}$ | 5.0A | $T_a = 75^\circ\text{C}$ |
| Peak Forward Surge Current | I_{FSM} | 100A | 8.3ms, half sine |
| Maximum Instantaneous Forward Voltage | V_F | 1.20V | $I_{FM} = 5.0A$; $T_a = 25^\circ\text{C}^*$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | I_R | 80μA 1mA | $T_a = 25^\circ\text{C}$ $T_a = 100^\circ\text{C}$ |
| Typical Junction Capacitance | C_J | 100pF | Measured at 1.0MHz, $V_R=4.0V$ |

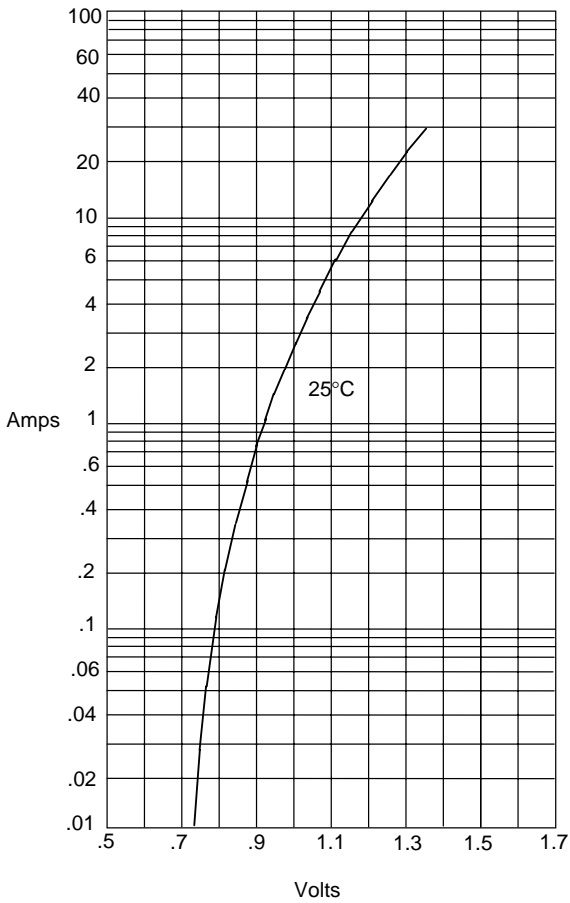
*Pulse test: Pulse width 200 μsec, Duty cycle 2%

SUGGESTED SOLDER PAD LAYOUT



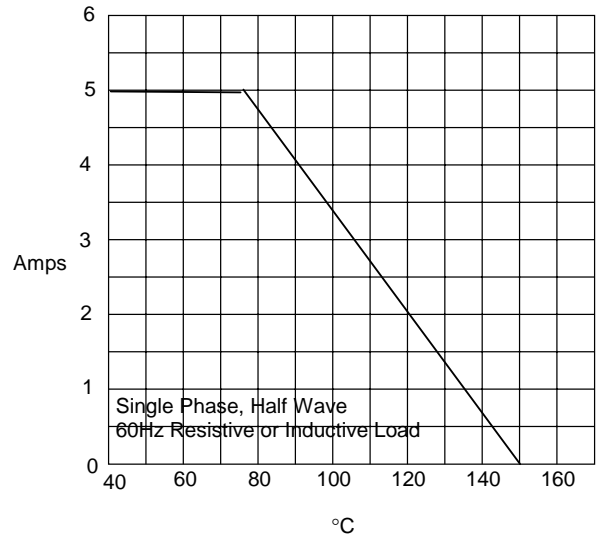
S5AL thru S5ML

Figure 1
Typical Forward Characteristics



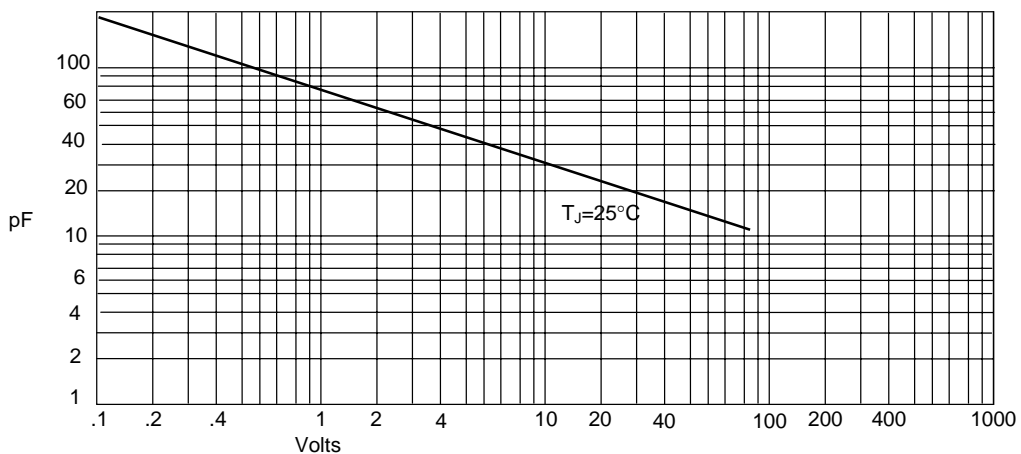
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



Single Phase, Half Wave
60Hz Resistive or Inductive Load
Average Forward Rectified Current - Amperes *versus*
Ambient Temperature - °C

Figure 3
Junction Capacitance



Junction Capacitance - pF *versus*
Reverse Voltage - Volts



TM

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