The MS5A brings low profile and cost effectiveness to a surface mount package. Matching the footprint and pin-out of Lucent’s Austin Lite™ series, the MS5A is perfect for point-of-load applications that demand a high performance power source.

Designed for use with today’s latest microprocessors, ASICs, and DSPs, the MS5A provides superior transient response using Bourns Switch Power’s patented V™ architecture. This high efficiency converter includes a control pin for output enable/disable, and can also accept an external voltage across its output; an advantage when powering multiple input processors.

### Input Specifications

- **Voltage**:
  - Minimum: 3.0 VDC
  - Nominal: 3.3 VDC
  - Maximum: 3.6 VDC
- **Current**: 5.5 A (5 V input), 5 A (3.3 V input)
- **Remote Enable**
  - Open: On
  - Low: Off (0.4 VDC)

### Output Specifications

- **Current**: 5 A
- **Voltage Setpoint Accuracy**: ±2 % Vnom
- **Voltage Trim Range**: -5 to +5 % Vnom
- **Line Regulation**: ±0.1 % Vnom
- **Load Regulation**: ±0.3 % Vnom (±0.2 % without remote sense)
- **Dynamic Response**
  - 0 to 6 A load: 200 mV nom. (ΔV/Δt = 3 A/µs)
  - 6 to 0 A load: 200 mV nom. (ΔV/Δt = 3 A/µs)
- **Temperature Regulation**: ±0.02 % Vout/°C max.

### General Specifications

- **MBTF**: 1,000 kHrs nom.
- **Bellcore TR332, 25 °C**
- **Operating Temperature**: -25 to +85 °C
- **Storage Temperature**: -40 to +125 °C
- **Switching Frequency**: 800 kHz nom. (500 kHz nom. MS5A-3S2.5 only)

### Electrical Specifications

<table>
<thead>
<tr>
<th></th>
<th>Nominal Input (V)</th>
<th>Output Voltage (V)</th>
<th>Output Current (A)</th>
<th>OCP Limit (A)</th>
<th>Ripple Max (mV pp)</th>
<th>Efficiency Typ. (%)</th>
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<td>3.3</td>
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</table>

### General Information

Customers should verify actual device performance in their specific applications.
MS5A Series – Power Module

Product Schematic

![Schematic Diagram]

Temperature Derating

- **MS5A-3S2.5**
  - AMBIENT TEMPERATURE (°C)
  - MAXIMUM RATED CURRENT (Amps)
  - OUTPUT VOLTAGE (Volts)

- **MS5A-3S3.3**
  - AMBIENT TEMPERATURE (°C)
  - MAXIMUM RATED CURRENT (Amps)
  - OUTPUT VOLTAGE (Volts)

How to Order

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Internal Identifier</th>
<th>Current/Power (Amps)</th>
<th>Input Voltage (Volts)</th>
<th>Outputs</th>
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<tbody>
<tr>
<td>M  S  5A  -  5</td>
<td>S  3.3  -  Z</td>
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<td>B = Single</td>
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<td></td>
<td></td>
<td>Output Voltage (Volts)</td>
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<td>Options</td>
</tr>
</tbody>
</table>

Z = Industrial Temperature Range (-40 °C Operation)

How to Use

- **Rup** = \[
  \frac{499 \times (V_{in} - (1 + \text{Trim \%}) \times 1.5 \times V_{in} - 1.5)}{1 - (V_{in} - (1 + \text{Trim \%}) \times 1.5 \times V_{in} - 1.5)}
\]

- **Rdown** = \[
  499 \times \frac{1 - \text{Trim \%}}{1 - (1 - \text{Trim \%})}
\]

Trim \% = desired percentage trim up or down

**MS5A Series – Power Module**

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