POWER SOLUTIONS FOR PRECISION TECHNOLOGY SIGNAL CHAINS

PRECISION MEDIUM BANDWIDTH Encoder Based Rotation Sensing Density Optimized

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This document is interactive. You can click on any underlined text to navigate through the document.

For the resources:

- **APPENDIX**
  - Parts Guide
  - Power Requirements

Left-click the Parts Guide and Power Requirements to go through the list of power devices and other references.

The Power Components are listed on the Appendix, and you may click on the part to go through its product page online.

<table>
<thead>
<tr>
<th>PART #</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT3471</td>
<td>Dual 1.3A, 1.2MHz Boost/Inverter in 3mm × 3mm DFN</td>
</tr>
<tr>
<td>LT8604</td>
<td>High Efficiency 42V/120mA Synchronous Buck</td>
</tr>
<tr>
<td>LT8570-1</td>
<td>Boost/SEPIC/Inverting DC/DC Converter with 65V Switch, Soft-Start and Sync.</td>
</tr>
</tbody>
</table>

Left-click the specific signal chain to go through its respective block diagram or power tree.

**POWER REQUIREMENTS**

<table>
<thead>
<tr>
<th>PARAMETER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage</td>
</tr>
<tr>
<td>Supply Current</td>
</tr>
<tr>
<td>PSRR</td>
</tr>
</tbody>
</table>

For the individual pages:
Power Solutions for Precision Technology Signal Chains

APPENDIX

Parts Guide
Power Requirements

USER GUIDE

Encoder Based Rotation Sensing
Density Optimized

Non-isolated
Multichannel

Non-isolated Multichannel

Power Requirements

AD9856 TIA

x2

FILTER

x2

ADA4945 DRIVER

AD7380 ADC

CONTROLLER

Precision Medium Bandwidth

Density Optimized

Multichannel

LT6702 COMP

V+

3V3

ADP7918 LDO

5V

V_OUT

5.5V

LT8894C

V_IN

V_OUT

S1

S2

5V

12V

24V

OPEN

SHORT

OPEN

SHORT
### Power Solutions for Precision Technology Signal Chains

#### Precision Medium Bandwidth

<table>
<thead>
<tr>
<th>PART #</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>LT8604C</td>
<td>High Efficiency 42V/120mA Synchronous Buck</td>
</tr>
<tr>
<td>LT3023</td>
<td>Dual 100mA, Low Dropout, Low Noise, Micropower Regulator</td>
</tr>
<tr>
<td>ADP7118</td>
<td>20V, 200mA, Low Noise, CMOS LDO Linear Regulator</td>
</tr>
</tbody>
</table>

- Non-isolated
- Multichannel

**Encoder Based Rotation Sensing**

**Density Optimized**
POWER REQUIREMENTS

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>STAGES</th>
<th>TIA</th>
<th>Filter</th>
<th>ADC Driver</th>
<th>ADC</th>
<th>Ref Buffer</th>
<th>Ref</th>
<th>Comparator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part #</td>
<td>AD8656</td>
<td>AD4945-1</td>
<td>AD7380</td>
<td>LTC6702</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Pin</td>
<td>V+</td>
<td>+V S</td>
<td>-V S</td>
<td>V CC</td>
<td>V Logic</td>
<td>V+</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Voltage</td>
<td>V</td>
<td>5</td>
<td>5</td>
<td>3.3</td>
<td>1.8</td>
<td>3.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Current</td>
<td>mA</td>
<td>5.3</td>
<td>4.2</td>
<td>26</td>
<td>3.7</td>
<td>0.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSRR</td>
<td>dB</td>
<td>32 (1MHz)</td>
<td>106 (1MHz)</td>
<td>75 (1MHz)</td>
<td>54</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note 1:** The supply currents indicated are the maximum quiescent current of the supply rails. For overall full load or short circuit current specifications, refer to the datasheets of the signal chain components.

**Note 2:** The supply voltages indicated are the values for typical applications.

**Note 3:** Consult the corresponding datasheets for details on: (1) power supply rejection ratio (PSRR) and (2) power dissipation.

**Note 4:** The actual supply current requirement shall be multiplied depending on the number of channels on the signal chain.