POWER SOLUTIONS FOR PRECISION TECHNOLOGY SIGNAL CHAINS

PRECISION MEDIUM BANDWIDTH
Encoder Based Rotation Sensing
Cost Optimized

©2022 Analog Devices, Inc. All rights reserved. Trademarks and registered trademarks are the property of their respective owners.
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>

For the individual pages:

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

<table>
<thead>
<tr>
<th>POWER REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Non-isolated 1-Channel</td>
</tr>
</tbody>
</table>

PARAMETER

- Supply Voltage
- Supply Current
- PSRR
APPENDIX

Parts Guide

Power Requirements

USER GUIDE

Encoder Based Rotation Sensing

Cost Optimized

Precision Medium Bandwidth

Power Solutions for Precision Technology Signal Chains

Non-isolated Multichannel

AD8958 TIA

x2

FILTER

x2

ADA4946-1 DRIVER

x2

AD4881 ADC

V+ V+ VCC V+ VLOGIC

LTCS702 COMP

3V3

V+ VOUT

ADP7718 LDO

VOUT

LT8804C

5V

VIN

VOUT

5.5V

VIN

VIN | S1 | S2
---|---|---
5V | OPEN | SHORT
12V | SHORT | OPEN
24V | SHORT | OPEN

S1 S2

3.3V

1.8V

3V3

VOUT1 VOUT2

LT3025-DUAL LD0 V+ VNC

SUPPLY

5V

12V

24V
<table>
<thead>
<tr>
<th>PART #</th>
<th>DESCRIPTION</th>
</tr>
</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>
**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>Comparator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part #</td>
<td></td>
<td>AD8656</td>
<td>ADA4945-1</td>
<td>AD4681</td>
<td></td>
<td>LTC6702</td>
</tr>
<tr>
<td>Pin</td>
<td></td>
<td>V+</td>
<td>+V_S</td>
<td>-V_S</td>
<td>V_CC</td>
<td>V_LOGIC</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>
</tr>
<tr>
<td>Supply Current</td>
<td>mA</td>
<td>5.3</td>
<td>4.2</td>
<td>5.6</td>
<td>0.47</td>
<td>0.08</td>
</tr>
<tr>
<td>PSRR</td>
<td>dB</td>
<td>32 (1MHz)</td>
<td>106 (1MHz)</td>
<td>75 (1MHz)</td>
<td></td>
<td>54</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.