Product Overview

Combine Power Good Signals

Power supply IC (LDOs, converters, PMICs) power-good outputs often have weak open-drain drivers. This fact combined with the common practice of physically separating a supply from the digital and analog processing subsystems can result in very long traces. Long traces result in large parasitic capacitances and can negatively affect signal integrity. By adding a strong push-pull CMOS driver, the signal is improved. At the same time, signals can be combined through simple logic to reduce the number of inputs required.

![Diagram showing combining power good signals](image)

See more about this use case in the Logic Minute video Combining Power Good Signals.

Design Considerations

- Open-drain outputs require pullup resistors
- Keep traces to the logic gate inputs relatively short to reduce capacitive loading and improve performance
- High-drive balanced CMOS output logic improves signal integrity while reducing the number of inputs required
- [FAQ] How does a slow or floating input affect a CMOS device?
- [FAQ] Where do I find maximum power dissipation for a device?
- Ask a question on our Engineer-to-Engineer forum

Recommended Parts

<table>
<thead>
<tr>
<th>Part Number</th>
<th>AEC-Q100</th>
<th>Vcc Range</th>
<th>Channels</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>SN74LVC1G08</td>
<td>✓</td>
<td>1.65 V — 5.5 V</td>
<td>1</td>
<td>High Drive Strength - 32 mA</td>
</tr>
<tr>
<td>SN74LVC1G08-Q1</td>
<td>✓</td>
<td>1.65 V — 5.5 V</td>
<td>1</td>
<td>Low power - Icc &lt; 0.9 μA</td>
</tr>
<tr>
<td>SN74AUP1G08</td>
<td>✓</td>
<td>0.8 V — 3.6 V</td>
<td>1</td>
<td>Schmitt-trigger inputs</td>
</tr>
<tr>
<td>SN74AUP1G08-Q1</td>
<td>✓</td>
<td>0.8 V — 3.6 V</td>
<td>1</td>
<td>Schmitt-trigger inputs</td>
</tr>
<tr>
<td>SN74HCS08</td>
<td>✓</td>
<td>2 V — 6 V</td>
<td>4</td>
<td>Schmitt-trigger inputs</td>
</tr>
<tr>
<td>SN74HCS08-Q1</td>
<td>✓</td>
<td>2 V — 6 V</td>
<td>4</td>
<td>Schmitt-trigger inputs</td>
</tr>
</tbody>
</table>

For more devices, browse through the online parametric tool where you can sort by desired voltage, channel numbers, and other features.
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