

Power Management Solutions for Xilinx Programmable Logic Devices

Selecting the optimum regulator to power your FPGA depends on the input voltage, the maximum load current, and efficiency requirements. Low dropout (LDO) regulators are excellent at low current levels where their low efficiency wastes little power. LDOs also offer low noise and fast transient response compared to switching regulators. They have a small footprint and are relatively inexpensive. At medium current levels buck (step-down) regulators are used. For the highest load currents controllers are required that use external power MOSFETs.

How to Use the Selection Tables

Determine the peak current requirement for each rail of your Xilinx® FPGA by referring to the relevant data sheet and using Xilinx Web tools, such as XPower Analyzer. Then, use the appropriate table in this guide to select power solutions that offer the required V_{OUT} and I_{OUT} for that rail. If a low noise supply rail is required, then an LDO may be the best solution.

ADI provides two types of selection tables in this guide; tables for selecting the FPGA core power regulator (for example, the 1.0 V supply for the Virtex®-6 core shown on Page 3), and tables for selecting the power regulator for I/O or AUX supplies that are provided near the end of this guide.

From the left hand side of the core power tables, select the input supply voltage available and then move to the box on the right that provides the required core load current. In each box there are two or more regulator suggestions. Select the best product using your exact load current and input voltage available. Refer to the data sheet on the chosen LDO, buck controller product for detailed specifications and application circuits.

The ADIsimPower™ design tool offers a complete set of features to create a complete BOM for all of these solutions. The power regulator tables for I/O or AUX supplies are used in a similar way to the core power tables. The ADIsimPower design tool is also used to create a complete BOM for I/O or AUX supplies. Visit www.analog.com/ADIsimPower.

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Virtex-6

1.0 V Core (0.9 V Low Power)

	Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type
	$\leq 200\text{ mA}$		$\leq 600\text{ mA}$		$\leq 1.0\text{ A}$		$\leq 2.0\text{ A}$		$\leq 4.0\text{ A}$		$\leq 25\text{ A}$	
1.2 V to 2.7 V	ADP130	LDO	ADP170	LDO	ADP1706*	LDO	ADP1740*	LDO	ADP1821	Controller	ADP1821	Controller
	ADP1710	LDO	ADP171	LDO	ADP1707*	LDO	ADP1741*	LDO	ADP1822	Controller	ADP1822	Controller
	ADP1711	LDO	ADP1712	LDO	ADP1708*	LDO	ADP1754*	LDO	ADP1828	Controller	ADP1828	Controller
			ADP1713	LDO	ADP1752*	LDO	ADP1755*	LDO	ADP1829*	Dual controller	ADP1829*	Dual controller
			ADP1714	LDO	ADP1753*	LDO	ADP2119*	Buck				
			ADP1715	LDO	ADP1754*	LDO						
			ADP1716	LDO	ADP1755*	LDO						
			ADP2108*	Buck	ADP2120*	Buck						
			ADP2109*	Buck								
			ADP2140*	Buck, LDO								
2.7 V to 5 V	ADP123	LDO	ADP125	LDO	ADP1706*	LDO	ADP1740*	LDO	ADP2114*	Dual buck	ADP2116*	Dual buck
	ADP1710	LDO	ADP1712	LDO	ADP1707*	LDO	ADP1741*	LDO	ADP2116*	Dual buck	ADP1821	Controller
	ADP1711	LDO	ADP1713	LDO	ADP1708*	LDO	ADP1754*	LDO	ADP2118*	Buck	ADP1822	Controller
	ADP2108*	Buck	ADP1714	LDO	ADP1752*	LDO	ADP1755*	LDO	ADP1821	Controller	ADP1828	Controller
			ADP1715	LDO	ADP1753*	LDO	ADP2114*	Dual buck	ADP1822	Controller	ADP1829*	Dual controller
			ADP1716	LDO	ADP1754*	LDO	ADP2118*	Buck	ADP1828	Controller	ADP1864	Controller
			ADP2108*	Buck	ADP1755*	LDO	ADP2119*	Buck	ADP1829*	Dual controller	ADP1872	Controller
			ADP2109*	Buck	ADP2120*	Buck	ADP2300	Buck	ADP1864	Controller	ADP1873	Controller
			ADP2140*	Buck, LDO	ADP2300	Buck	ADP2301	Buck	ADP1872	Controller	ADP1877*	Dual controller
					ADP2301	Buck	ADP1864	Controller	ADP1873	Controller		
				ADP1864	Controller			ADP1877*	Dual controller			
$\leq 12\text{ V to }24\text{ V}$	ADP2300	Buck	ADP2300	Buck	ADP2300	Buck	ADP2300	Buck	ADP1821	Controller	ADP1821	Controller
	ADP2301	Buck	ADP2301	Buck	ADP2301	Buck	ADP2301	Buck	ADP1822	Controller	ADP1822	Controller
					ADP1864	Controller	ADP1864	Controller	ADP1828	Controller	ADP1828	Controller
									ADP1829*	Dual controller	ADP1829*	Dual controller
									ADP1864	Controller	ADP1864	Controller
									ADP1872	Controller	ADP1872	Controller
									ADP1873	Controller	ADP1873	Controller
									ADP1877*	Dual controller	ADP1877*	Dual controller

*Devices are available in tiny packages, either the WLCSPP or LCSP.

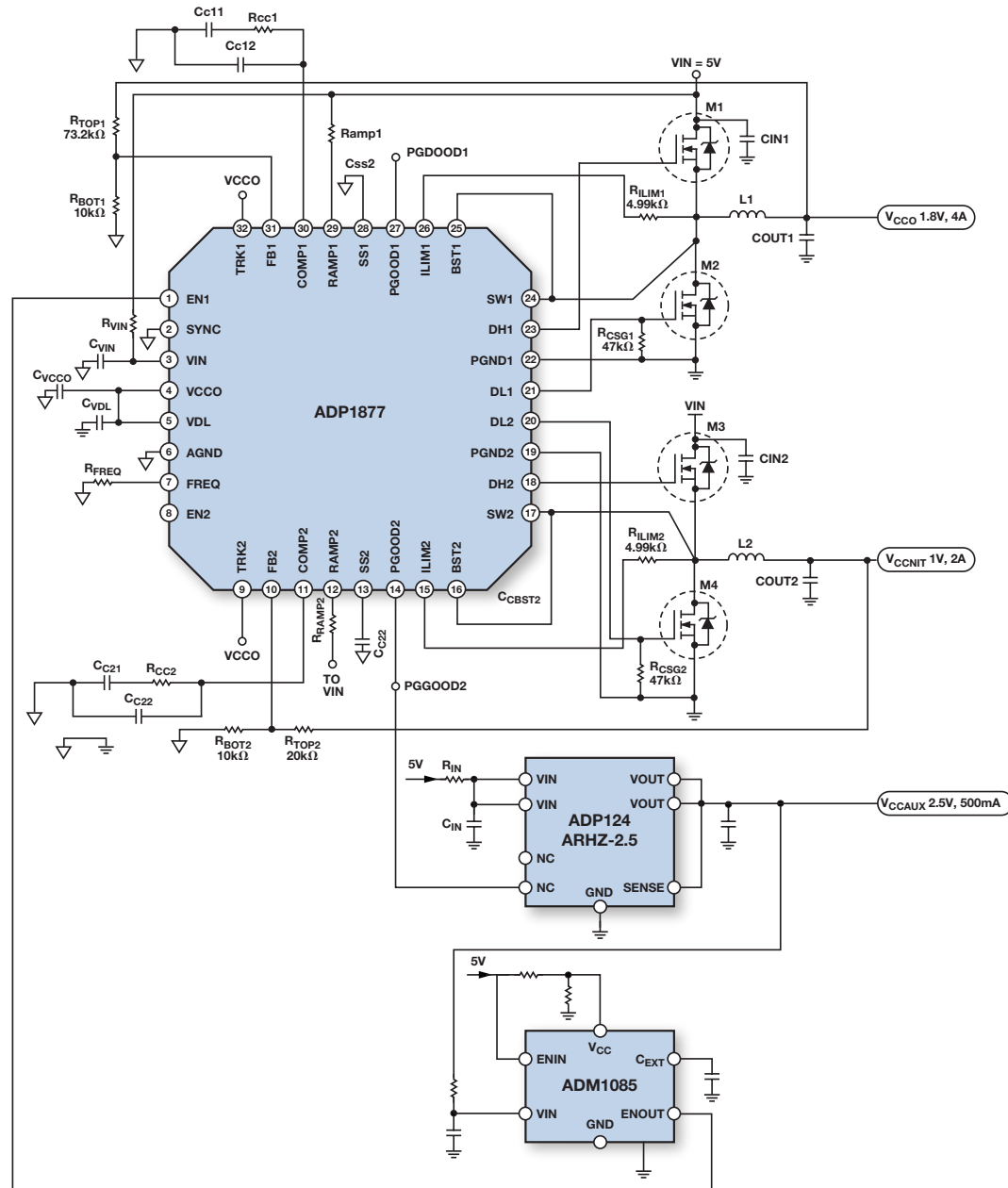
Virtex-5 and Virtex-5Q

1.0 V Core Supply

	Part Number		Type		Part Number		Type		Part Number		Type	
	≤200mA		≤600mA		≤1.0 A		≤2.0 A		≤4.0 A		≤25 A	
1.2 V to 2.7 V	ADP130	LDO	ADP170	LDO	ADP1706*	LDO	ADP1740*	LDO	ADP1821	Controller	ADP1821	Controller
	ADP1710	LDO	ADP171	LDO	ADP1707*	LDO	ADP1741*	LDO	ADP1822	Controller	ADP1822	Controller
	ADP1711	LDO	ADP1712	LDO	ADP1708*	LDO	ADP1754*	LDO	ADP1828	Controller	ADP1828	Controller
			ADP1713	LDO	ADP1752*	LDO	ADP1755*	LDO	ADP1829*	Dual controller	ADP1829*	Dual controller
			ADP1714	LDO	ADP1753*	LDO	ADP2119*	Buck				
			ADP1715	LDO	ADP1754*	LDO						
			ADP1716	LDO	ADP1755*	LDO						
			ADP2108*	Buck	ADP2120*	Buck						
			ADP2109*	Buck								
			ADP2140*	Buck, LDO								
2.7 V to 5 V	ADP123	LDO	ADP125	LDO	ADP1706*	LDO	ADP1740*	LDO	ADP2114*	Dual buck	ADP2116*	Dual buck
	ADP1710	LDO	ADP1712	LDO	ADP1707*	LDO	ADP1741*	LDO	ADP2116*	Dual buck	ADP1821	Controller
	ADP1711	LDO	ADP1713	LDO	ADP1708*	LDO	ADP1754*	LDO	ADP2118*	Buck	ADP1822	Controller
	ADP2108*	Buck	ADP1714	LDO	ADP1752*	LDO	ADP1755*	LDO	ADP1821	Controller	ADP1828	Controller
			ADP1715	LDO	ADP1753*	LDO	ADP2114*	Dual buck	ADP1822	Controller	ADP1829*	Dual controller
			ADP1716	LDO	ADP1754*	LDO	ADP2118*	Buck	ADP1828	Controller	ADP1864	Controller
			ADP2108*	Buck	ADP1755*	LDO	ADP2119*	Buck	ADP1829*	Dual controller	ADP1872	Controller
			ADP2109*	Buck	ADP2120*	Buck	ADP2300	Buck	ADP1864	Controller	ADP1873	Controller
			ADP2140*	Buck, LDO	ADP2300	Buck	ADP2301	Buck	ADP1872	Controller	ADP1877*	Dual controller
					ADP2301	Buck	ADP1864	Controller	ADP1873	Controller		
≤12 V to 24 V	ADP2300	Buck	ADP2300	Buck	ADP2300	Buck	ADP2300	Buck	ADP1821	Controller	ADP1821	Controller
	ADP2301	Buck	ADP2301	Buck	ADP2301	Buck	ADP2301	Buck	ADP1822	Controller	ADP1822	Controller
					ADP1864	Controller	ADP1864	Controller	ADP1828	Controller	ADP1828	Controller
									ADP1829*	Dual controller	ADP1829*	Dual controller
									ADP1864	Controller	ADP1864	Controller
									ADP1872	Controller	ADP1872	Controller
									ADP1873	Controller	ADP1873	Controller
									ADP1877*	Dual controller	ADP1877*	Dual controller

*Devices are available in tiny packages, either the WLCSF or LCSP.

Typical Power Supply Circuit for Virtex-5



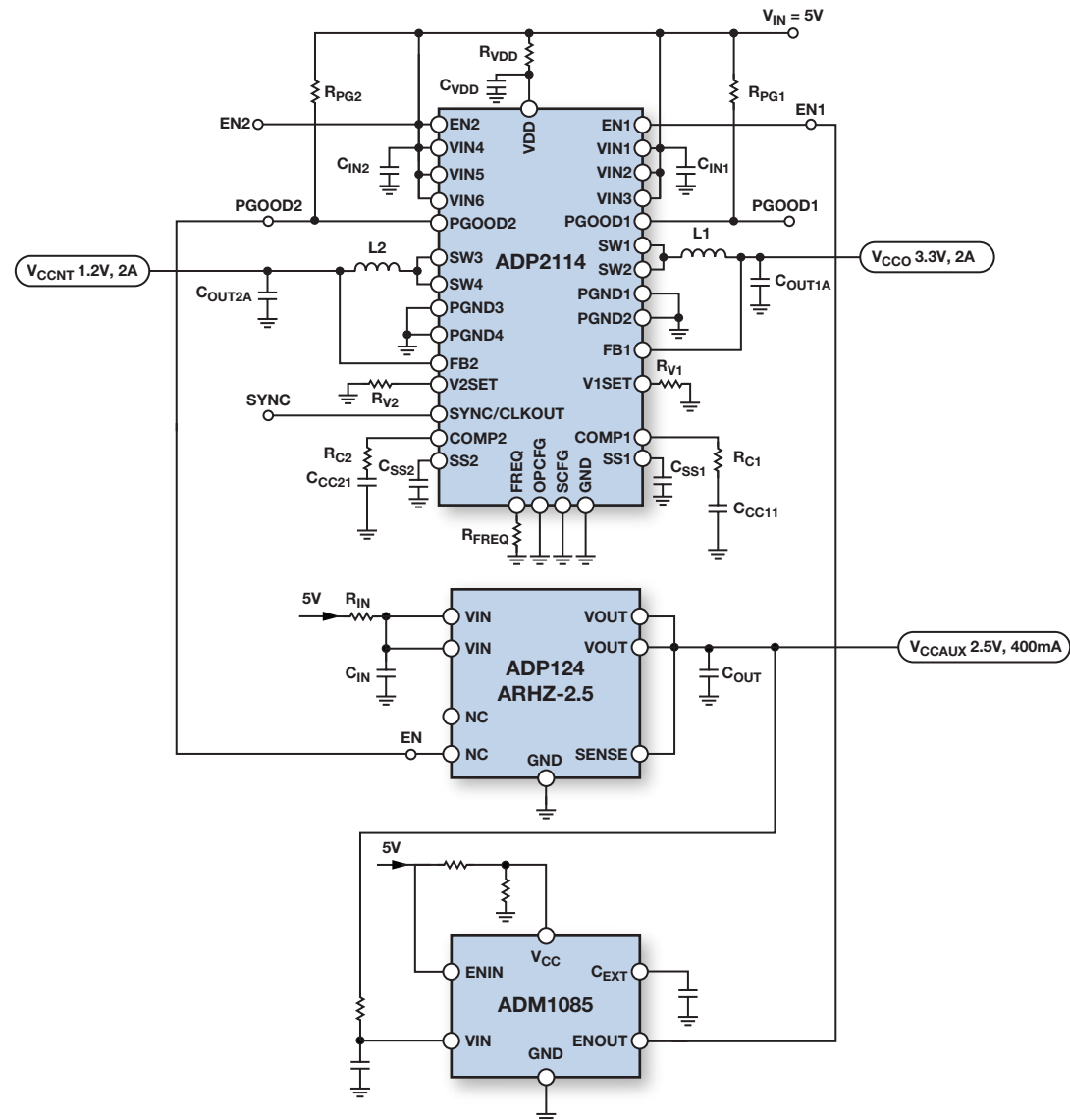
Virtex-4® and Spartan®-3 Family

1.2 V Core Supply

	Part Number		Type		Part Number		Type		Part Number		Type	
	≤ 200 mA		≤ 600 mA		≤ 1.0 A		≤ 2.0 A		≤ 4.0 A		≤ 25 A	
1.2 V to 2.7 V	ADP121*	LDO	ADP125	LDO	ADP1706*	LDO	ADP1740*	LDO	ADP1821	Controller	ADP1821	Controller
	ADP130	LDO	ADP170	LDO	ADP1707*	LDO	ADP1741*	LDO	ADP1822	Controller	ADP1822	Controller
	ADP150*	LDO	ADP171	LDO	ADP1708*	LDO	ADP1754*	LDO	ADP1828	Controller	ADP1828	Controller
	ADP1710	LDO	ADP1712	LDO	ADP1752*	LDO	ADP1755*	LDO	ADP1829*	Dual controller	ADP1829*	Dual controller
	ADP1711	LDO	ADP1713	LDO	ADP1753*	LDO	ADP2119*	Buck				
			ADP1714	LDO	ADP1754*	LDO						
			ADP1715	LDO	ADP1755*	LDO						
			ADP1716	LDO	ADP2120*	Buck						
			ADP2108*	Buck								
			ADP2109*	Buck								
		ADP2140*	Buck, LDO									
		ADP5020*	2× buck, LDO									
		ADP5022*	2× buck, LDO									
2.7 V to 5 V	ADP121*	LDO	ADP125	LDO	ADP1706*	LDO	ADP1740*	LDO	ADP2114*	Dual buck	ADP2116*	Dual buck
	ADP123	LDO	ADP1712	LDO	ADP1707*	LDO	ADP1741*	LDO	ADP2116*	Dual buck	ADP1821	Controller
	ADP150*	LDO	ADP1713	LDO	ADP1708*	LDO	ADP1754*	LDO	ADP2118*	Buck	ADP1822	Controller
	ADP1710	LDO	ADP1714	LDO	ADP1752*	LDO	ADP1755*	LDO	ADP1821	Controller	ADP1828	Controller
	ADP1711	LDO	ADP1715	LDO	ADP1753*	LDO	ADP2114*	Dual buck	ADP1822	Controller	ADP1829*	Dual controller
	ADP2108*	Buck	ADP1716	LDO	ADP1754*	LDO	ADP2118*	Buck	ADP1828	Controller	ADP1864	Controller
			ADP2108*	Buck	ADP1755*	LDO	ADP2119*	Buck	ADP1829*	Dual controller	ADP1872	Controller
			ADP2109*	Buck	ADP2120*	Buck	ADP2300	Buck	ADP1864	Controller	ADP1873	Controller
			ADP2140*	Buck, LDO	ADP2300	Buck	ADP2301	Buck	ADP1872	Controller	ADP1877*	Dual controller
			ADP5020*	2× buck, LDO	ADP2301	Buck	ADP1864	Controller	ADP1873	Controller		
		ADP5022*	2× buck, LDO	ADP1864	Controller			ADP1877*	Dual controller			
≤ 12 V to 24 V	ADP2300	Buck	ADP2300	Buck	ADP2300	Buck	ADP2300	Buck	ADP1821	Controller	ADP1821	Controller
	ADP2301	Buck	ADP2301	Buck	ADP2301	Buck	ADP2301	Buck	ADP1822	Controller	ADP1822	Controller
					ADP1864	Controller	ADP1864	Controller	ADP1828	Controller	ADP1828	Controller
									ADP1829*	Dual controller	ADP1829*	Dual controller
									ADP1864	Controller	ADP1864	Controller
									ADP1872	Controller	ADP1872	Controller
									ADP1873	Controller	ADP1873	Controller
									ADP1877*	Dual controller	ADP1877*	Dual controller

*Devices are available in tiny packages, either the WLCSF or LFCSP.

Typical Power Supply Circuit for Spartan-3



Virtex-II® Pro and Virtex-II

1.5 V Core Supply

	Part Number		Type		Part Number		Type		Part Number		Type	
	≤200mA		≤600mA		≤1.0 A		≤2.0 A		≤4.0 A		≤25 A	
1.5 V to 2.7 V	ADP121*	LDO	ADP125	LDO	ADP1706*	LDO	ADP1740*	LDO	ADP1821	Controller	ADP1821	Controller
	ADP130	LDO	ADP170	LDO	ADP1707*	LDO	ADP1741*	LDO	ADP1822	Controller	ADP1822	Controller
	ADP150*	LDO	ADP171	LDO	ADP1708*	LDO	ADP1754*	LDO	ADP1828	Controller	ADP1828	Controller
	ADP1710	LDO	ADP1712	LDO	ADP1752*	LDO	ADP1755*	LDO	ADP1829*	Dual controller	ADP1829*	Dual controller
	ADP1711	LDO	ADP1713	LDO	ADP1753*	LDO	ADP2119*	Buck				
			ADP1714	LDO	ADP1754*	LDO						
			ADP1715	LDO	ADP1755*	LDO						
			ADP1716	LDO	ADP2120*	Buck						
			ADP2108*	Buck								
			ADP2109*	Buck								
			ADP2140*	Buck, LDO								
			ADP5020*	2× buck, LDO								
			ADP5022*	2× buck, LDO								
	2.7 V to 5 V	ADP121*	LDO	ADP125	LDO	ADP1706*	LDO	ADP1740*	LDO	ADP2114*	Dual buck	ADP2116*
ADP123		LDO	ADP1712	LDO	ADP1707*	LDO	ADP1741*	LDO	ADP2116*	Dual buck	ADP1821	Controller
ADP150*		LDO	ADP1713	LDO	ADP1708*	LDO	ADP1754*	LDO	ADP2118*	Buck	ADP1822	Controller
ADP1710		LDO	ADP1714	LDO	ADP1752*	LDO	ADP1755*	LDO	ADP1821	Controller	ADP1828	Controller
ADP1711		LDO	ADP1715	LDO	ADP1753*	LDO	ADP2114*	Dual buck	ADP1822	Controller	ADP1829*	Dual controller
ADP1720		LDO	ADP1716	LDO	ADP1754*	LDO	ADP2118*	Buck	ADP1828	Controller	ADP1864	Controller
ADP3331		LDO	ADP3334	LDO	ADP1755*	LDO	ADP2119*	Buck	ADP1829*	Dual controller	ADP1872	Controller
ADP3333		LDO	ADP3336	LDO	ADP2120*	Buck	ADP2300	Buck	ADP1864	Controller	ADP1873	Controller
ADP2108*		Buck	ADP2108*	Buck	ADP2300	Buck	ADP2301	Buck	ADP1872	Controller	ADP1877*	Dual controller
			ADP2109*	Buck	ADP2301	Buck	ADP1864	Controller	ADP1873	Controller		
			ADP2140*	Buck, LDO	ADP1864	Controller			ADP1877*	Dual controller		
	ADP5020*		2× buck, LDO									
	ADP5022*		2× buck, LDO									
≤12 V to 24 V	ADP1720	LDO	ADP3334*	LDO	ADP2300	Buck	ADP2300	Buck	ADP1821	Controller	ADP1821	Controller
	ADP3331	LDO	ADP3336	LDO	ADP2301	Buck	ADP2301	Buck	ADP1822	Controller	ADP1822	Controller
	ADP3333	LDO	ADP2300	Buck	ADP1864	Controller	ADP1864	Controller	ADP1828	Controller	ADP1828	Controller
	ADP2300	Buck	ADP2301	Buck					ADP1829*	Dual controller	ADP1829*	Dual controller
	ADP2301	Buck							ADP1864	Controller	ADP1864	Controller
								ADP1872	Controller	ADP1872	Controller	
								ADP1873	Controller	ADP1873	Controller	
								ADP1877*	Dual controller	ADP1877*	Dual controller	

*Devices are available in tiny packages, either the WLCSF or LCSP.

Spartan-II

2.5 V Core Supply

		Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type
		$\leq 200mA$		$\leq 600mA$		$\leq 1.0A$		$\leq 2.0A$		$\leq 4.0A$		$\leq 25A$	
Input Supply	2.5 V to 5 V	ADP121*	LDO	ADP124	LDO	ADP1706*	LDO	ADP1740*	LDO	ADP2114*	Dual buck	ADP2116*	Dual buck
		ADP122	LDO	ADP125	LDO	ADP1707*	LDO	ADP1741*	LDO	ADP2116*	Dual buck	ADP1821	Controller
		ADP123	LDO	ADP1712	LDO	ADP1708*	LDO	ADP1754*	LDO	ADP2118*	Buck	ADP1822	Controller
		ADP150*	LDO	ADP1713	LDO	ADP1752*	LDO	ADP1755*	LDO	ADP1821	Controller	ADP1828	Controller
		ADP1710	LDO	ADP1714	LDO	ADP1753*	LDO	ADP2114*	Dual buck	ADP1822	Controller	ADP1829*	Dual controller
		ADP1711	LDO	ADP1715	LDO	ADP1754*	LDO	ADP2118*	Buck	ADP1828	Controller	ADP1864	Controller
		ADP1720	LDO	ADP1716	LDO	ADP1755*	LDO	ADP2119*	Buck	ADP1829*	Dual controller	ADP1872	Controller
		ADP3331	LDO	ADP3334	LDO	ADP2120*	Buck	ADP2300	Buck	ADP1864	Controller	ADP1873	Controller
		ADP3333	LDO	ADP3336	LDO	ADP2300	Buck	ADP2301	Buck	ADP1872	Controller	ADP1877*	Dual controller
		ADP2108*	Buck	ADP2108*	Buck	ADP2301	Buck	ADP1864	Controller	ADP1873	Controller		
		ADP2140*	Buck, LDO	ADP1864	Controller			ADP1877*	Dual controller				
		ADP5020*	2× buck, LDO										
		ADP5022*	2× buck, LDO										
	$\leq 12V$ to 24 V	ADP1720	LDO	ADP3334*	LDO	ADP2300	Buck	ADP2300	Buck	ADP1821	Controller	ADP1821	Controller
		ADP3330	LDO	ADP3336	LDO	ADP2301	Buck	ADP2301	Buck	ADP1822	Controller	ADP1822	Controller
		ADP3331	LDO	ADP2300	Buck	ADP1864	Controller	ADP1864	Controller	ADP1828	Controller	ADP1828	Controller
		ADP3333	LDO	ADP2301	Buck					ADP1829*	Dual controller	ADP1829*	Dual controller
		ADP2300	Buck							ADP1864	Controller	ADP1864	Controller
		ADP2301	Buck							ADP1872	Controller	ADP1872	Controller
								ADP1873	Controller	ADP1873	Controller		
								ADP1877*	Dual controller	ADP1877*	Dual controller		

*Devices are available in tiny packages, either the WLCSF or LCSP.

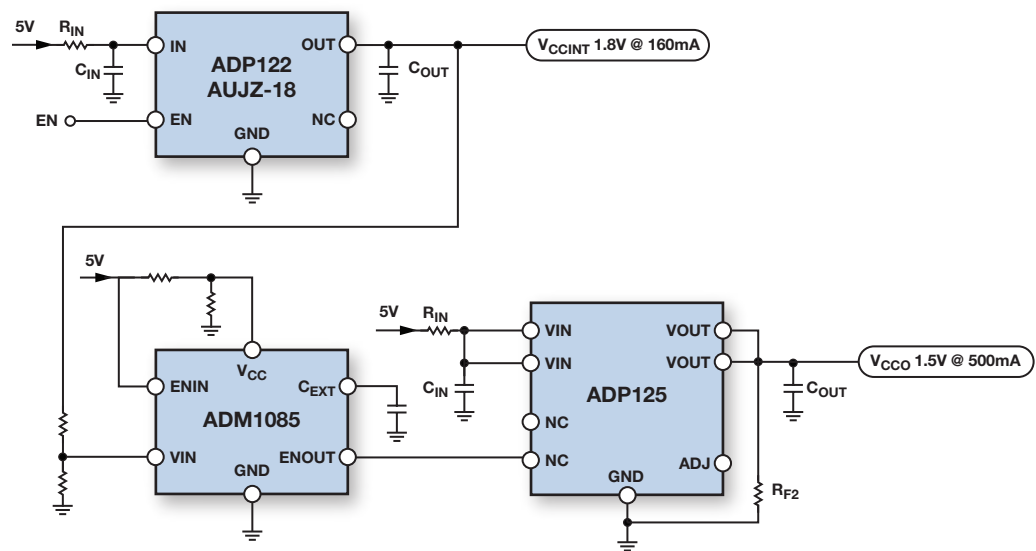
Virtex-E, Spartan-IIe, and CoolRunner®-II

1.8 V Core Supply

	Part Number		Type		Part Number		Type		Part Number		Type		Part Number		Type	
	≤200mA		≤600mA		≤1.0 A		≤2.0 A		≤4.0 A		≤25 A					
1.8 V to 2.7 V	ADP121*	LDO	ADP125	LDO	ADP1706*	LDO	ADP1740*	LDO	ADP1821	Controller	ADP1821	Controller				
	ADP130	LDO	ADP170	LDO	ADP1707*	LDO	ADP1741*	LDO	ADP1822	Controller	ADP1822	Controller				
	ADP150*	LDO	ADP171	LDO	ADP1708*	LDO	ADP1754*	LDO	ADP1828	Controller	ADP1828	Controller				
	ADP1710	LDO	ADP1712	LDO	ADP1752*	LDO	ADP1755*	LDO	ADP1829*	Dual controller	ADP1829*	Dual controller				
	ADP1711	LDO	ADP1713	LDO	ADP1753*	LDO	ADP2119*	Buck								
			ADP1714	LDO	ADP1754*	LDO										
			ADP1715	LDO	ADP1755*	LDO										
			ADP1716	LDO	ADP2120*	Buck										
			ADP2108*	Buck												
			ADP2109*	Buck												
		ADP2140*	Buck, LDO													
		ADP5020*	2× buck, LDO													
		ADP5022*	2× buck, LDO													
2.7 V to 5 V	ADP121*	LDO	ADP125	LDO	ADP1706*	LDO	ADP1740*	LDO	ADP2114*	Dual buck	ADP2116*	Dual buck				
	ADP123	LDO	ADP1712	LDO	ADP1707*	LDO	ADP1741*	LDO	ADP2116*	Dual buck	ADP1821	Controller				
	ADP150*	LDO	ADP1713	LDO	ADP1708*	LDO	ADP1754*	LDO	ADP2118*	Buck	ADP1822	Controller				
	ADP1710	LDO	ADP1714	LDO	ADP1752*	LDO	ADP1755*	LDO	ADP1821	Controller	ADP1828	Controller				
	ADP1711	LDO	ADP1715	LDO	ADP1753*	LDO	ADP2114*	Dual buck	ADP1822	Controller	ADP1829*	Dual controller				
	ADP1720	LDO	ADP1716	LDO	ADP1754*	LDO	ADP2118*	Buck	ADP1828	Controller	ADP1864	Controller				
	ADP3331	LDO	ADP3334	LDO	ADP1755*	LDO	ADP2119*	Buck	ADP1829*	Dual controller	ADP1872	Controller				
	ADP3333	LDO	ADP3336	LDO	ADP2120*	Buck	ADP2300	Buck	ADP1864	Controller	ADP1873	Controller				
	ADP2108*	Buck	ADP2108*	Buck	ADP2300	Buck	ADP2301	Buck	ADP1872	Controller	ADP1877*	Dual controller				
			ADP2109*	Buck	ADP2301	Buck	ADP1864	Controller	ADP1873	Controller						
≤2 V to 2.4 V	ADP1720	LDO	ADP3334*	LDO	ADP2300	Buck	ADP2300	Buck	ADP1821	Controller	ADP1821	Controller				
	ADP3331	LDO	ADP3336	LDO	ADP2301	Buck	ADP2301	Buck	ADP1822	Controller	ADP1822	Controller				
	ADP3333	LDO	ADP2300	Buck	ADP1864	Controller	ADP1864	Controller	ADP1828	Controller	ADP1828	Controller				
	ADP2300	Buck	ADP2301	Buck					ADP1829*	Dual controller	ADP1829*	Dual controller				
	ADP2301	Buck							ADP1864	Controller	ADP1864	Controller				
									ADP1872	Controller	ADP1872	Controller				
								ADP1873	Controller	ADP1873	Controller					
								ADP1877*	Dual controller	ADP1877*	Dual controller					

*Devices are available in tiny packages, either the WLCSF or LFCSP.

Typical Power Supply Circuit for CoolRunner-II



CoolRunner XPLA3

3.3 V Core Supply

		Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type	
		$\leq 200mA$		$\leq 600mA$		$\leq 1.0A$		$\leq 2.0A$		$\leq 4.0A$		$\leq 25A$		
Input Supply	2.5 V	ADP2503*	Boost	ADP2503*	Boost	ADP2504*	Boost	ADP1612	Boost					
								ADP1613	Boost					
		5 V	ADP121*	LDO	ADP124	LDO	ADP1706*	LDO	ADP2114*	Dual buck	ADP2114*	Dual buck	ADP2116*	Dual buck
	ADP122		LDO	ADP125	LDO	ADP1707*	LDO	ADP2118*	Buck	ADP2116*	Dual buck	ADP1821	Controller	
	ADP123		LDO	ADP1712	LDO	ADP1708*	LDO	ADP2119*	Buck	ADP2118*	Buck	ADP1822	Controller	
	ADP150*		LDO	ADP1713	LDO	ADP2120*	Buck	ADP2300	Buck	ADP1821	Controller	ADP1828	Controller	
	ADP1710		LDO	ADP1714	LDO	ADP2300	Buck	ADP2301	Buck	ADP1822	Controller	ADP1829*	Dual controller	
	ADP1711		LDO	ADP1715	LDO	ADP2301	Buck	ADP1864	Controller	ADP1828	Controller	ADP1864	Controller	
	ADP1720		LDO	ADP1716	LDO	ADP1864	Controller			ADP1829*	Dual controller	ADP1872	Controller	
	ADP3331		LDO	ADP3334	LDO					ADP1864	Controller	ADP1873	Controller	
ADP3333	LDO		ADP3336	LDO					ADP1872	Controller	ADP1877*	Dual controller		
ADP2108*	Buck		ADP2108*	Buck					ADP1873	Controller				
		ADP2140*	Buck, LDO					ADP1877*	Dual controller					
		ADP5022*	2× buck, LDO											
	$\leq 12V$ to 24 V	ADP1720	LDO	ADP3334*	LDO	ADP2300	Buck	ADP2300	Buck	ADP1821	Controller	ADP1821	Controller	
ADP3330		LDO	ADP3336	LDO	ADP2301	Buck	ADP2301	Buck	ADP1822	Controller	ADP1822	Controller		
ADP3331		LDO	ADP2300	Buck	ADP1864	Controller	ADP1864	Controller	ADP1828	Controller	ADP1828	Controller		
ADP3333		LDO	ADP2301	Buck					ADP1829*	Dual controller	ADP1829*	Dual controller		
ADP2300		Buck							ADP1864	Controller	ADP1864	Controller		
ADP2301		Buck							ADP1872	Controller	ADP1872	Controller		
								ADP1873	Controller	ADP1873	Controller			
								ADP1877*	Dual controller	ADP1877*	Dual controller			

*Devices are available in tiny packages, either the WLCSP or LFCSP.

Power Supplies for I/O

Input (V)	Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type	
	≤ 600 mA		≤ 1.0 A		≤ 2.0 A		≤ 4.0 A		≤ 25 A		
1.5 V	1.8	ADP170	LDO	ADP1752*	LDO	ADP1740*	LDO	ADP1821	Controller	ADP1821	Controller
		ADP171	LDO	ADP1753*	LDO	ADP1741*	LDO	ADP1822	Controller	ADP1822	Controller
				ADP1754*	LDO	ADP1754*	LDO	ADP1828	Controller	ADP1828	Controller
				ADP1755*	LDO	ADP1755*	LDO	ADP1829*	Dual controller	ADP1829*	Dual controller
	2.5	ADP170	LDO	ADP2120*	Buck	ADP2119*	Buck	ADP1821	Controller	ADP1821	Controller
		ADP171	LDO					ADP1822	Controller	ADP1822	Controller
		ADP2108*	Buck					ADP1828	Controller	ADP1828	Controller
		ADP2109*	Buck					ADP1829*	Dual controller	ADP1829*	Dual controller
	3.3	ADP5020*	2× buck, LDO								
		ADP125	LDO	ADP2300	Buck	ADP2114*	Dual buck	ADP1821	Controller	ADP1821	Controller
		ADP2108*	Buck	ADP2301	Buck	ADP2118*	Buck	ADP1822	Controller	ADP1822	Controller
		ADP2109*	Buck			ADP2119*	Buck	ADP1828	Controller	ADP1828	Controller
		ADP5020*	2× buck, LDO					ADP1829*	Dual controller	ADP1829*	Dual controller
	ADP5022*	2× buck, LDO									
	5	ADP2108*	Buck	ADP2300	Buck	ADP2118*	Buck	ADP1821	Controller	ADP1821	Controller
		ADP2109*	Buck	ADP2301	Buck	ADP2119*	Buck	ADP1822	Controller	ADP1822	Controller
ADP5020*		2× buck, LDO	ADP1864	Controller	ADP1864	Controller	ADP1828	Controller	ADP1828	Controller	
ADP5022*		2× buck, LDO					ADP1829*	Dual controller	ADP1829*	Dual controller	
1.8 V	2.5	ADP170	LDO	ADP1752*	LDO	ADP1740*	LDO	ADP1821	Controller	ADP1821	Controller
		ADP171	LDO	ADP1753*	LDO	ADP1741*	LDO	ADP1822	Controller	ADP1822	Controller
		ADP5020*	2× buck, LDO	ADP1754*	LDO	ADP1754*	LDO	ADP1828	Controller	ADP1828	Controller
				ADP1755*	LDO	ADP1755*	LDO	ADP1829*	Dual controller	ADP1829*	Dual controller
	3.3	ADP170	LDO	ADP2300	Buck	ADP2114*	Dual buck	ADP1821	Controller	ADP1821	Controller
		ADP171	LDO	ADP2301	Buck	ADP2118*	Buck	ADP1822	Controller	ADP1822	Controller
		ADP2108*	Buck			ADP2119*	Buck	ADP1828	Controller	ADP1828	Controller
		ADP2109*	Buck					ADP1829*	Dual controller	ADP1829*	Dual controller
		ADP5020*	2× buck, LDO								
	ADP5022*	2× buck, LDO									
	5	ADP124	LDO	ADP2300	Buck	ADP2114*	Dual buck	ADP1821	Controller	ADP1821	Controller
		ADP2108*	Buck	ADP2301	Buck	ADP2118*	Buck	ADP1822	Controller	ADP1822	Controller
		ADP2109*	Buck	ADP1864	Controller	ADP2119*	Buck	ADP1828	Controller	ADP1828	Controller
		ADP5020*	2× buck, LDO			ADP1864	Controller	ADP1829*	Dual controller	ADP1829*	Dual controller
		ADP5022*	2× buck, LDO					ADP1864	Controller		

*Devices are available in tiny packages, either the WLCSF or LFCSP.

Power Supplies for I/O

Input (V)	Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type	Part Number	Type		
	$\leq 600\text{ mA}$		$\leq 1.0\text{ A}$		$\leq 2.0\text{ A}$		$\leq 4.0\text{ A}$		$\leq 25\text{ A}$			
I/O Supply	2.5 V	3.3 V	ADP170	LDO	ADP1752*	LDO	ADP2114*	Dual buck	ADP1821	Controller	ADP1821	Controller
			ADP171	LDO	ADP1753*	LDO	ADP2118*	Buck	ADP1822	Controller	ADP1822	Controller
			ADP2108*	Buck			ADP2119*	Buck	ADP1828	Controller	ADP1828	Controller
		ADP2109*	Buck					ADP1829*	Dual controller	ADP1829*	Dual controller	
		ADP5020*	2× buck, LDO									
		ADP5022*	2× buck, LDO									
	5 V	ADP124	LDO	ADP2300	Buck	ADP2114*	Dual buck	ADP1821	Controller	ADP1821	Controller	
		ADP2108*	Buck	ADP2301	Buck	ADP2118*	Buck	ADP1822	Controller	ADP1822	Controller	
		ADP5020*	2× buck, LDO	ADP1864	Controller	ADP2119*	Buck	ADP1828	Controller	ADP1828	Controller	
		ADP5022*	2× buck, LDO			ADP1864	Controller	ADP1829*	Dual controller	ADP1829*	Dual controller	
	12 V							ADP1864	Controller			
		ADP2300	Buck	ADP2300	Buck	ADP2300	Buck	ADP1821	Controller	ADP1821	Controller	
		ADP2301	Buck	ADP2301	Buck	ADP2301	Buck	ADP1822	Controller	ADP1822	Controller	
				ADP1864	Controller	ADP1864	Controller	ADP1828	Controller	ADP1828	Controller	
	3.3 V	5 V						ADP1829*	Dual controller	ADP1829*	Dual controller	
						ADP1864	Controller					
ADP2300			Buck	ADP2300	Buck	ADP2300	Buck	ADP1821	Controller	ADP1821	Controller	
ADP2301			Buck	ADP2301	Buck	ADP2301	Buck	ADP1822	Controller	ADP1822	Controller	
ADP1712			LDO	ADP1864	Controller	ADP2119*	Buck	ADP1828	Controller	ADP1828	Controller	
ADP1713			LDO			ADP2114*	Dual buck	ADP1821	Controller	ADP1821	Controller	
12 V		ADP1714	LDO			ADP2118*	Buck	ADP1822	Controller	ADP1822	Controller	
		ADP1715	LDO			ADP1864	Controller	ADP1829*	Dual controller	ADP1829*	Dual controller	
		ADP1716	LDO					ADP1864	Controller			
ADP2108*		Buck										
ADP5020*		2× buck, LDO										
ADP5022*		2× buck, LDO										
12 V		ADP2300	Buck	ADP2300	Buck	ADP2300	Buck	ADP1821	Controller	ADP1821	Controller	
		ADP2301	Buck	ADP2301	Buck	ADP2301	Buck	ADP1822	Controller	ADP1822	Controller	
				ADP1864	Controller	ADP1864	Controller	ADP1828	Controller	ADP1828	Controller	
							ADP1829*	Dual controller	ADP1829*	Dual controller		
						ADP1864	Controller					

*Devices are available in tiny packages, either the WLCSP or LFCSP.

Online Tools/Resources

In addition to providing world-class products and technical support, ADI takes great pride in offering design engineers the very best in online design tools. These tools have been specifically designed to provide power designers and nonpower designers alike the tools needed to design, optimize, and implement the very best power circuits available.

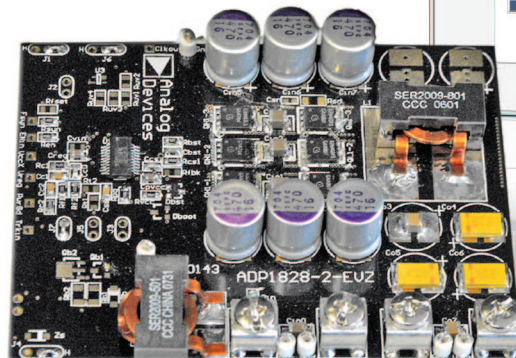
Tools like the recently released ADIsimPower tool provide users with an easy four-step process using an intuitive graphical user interface via your Web browser. This particular tool allows the designer to preselect their key goals, whether they be cost, size, or performance, and optimizes the solution to meet those goals. Additional tools are available online (as Excel-based downloadable versions) that make product selection and design a snap. ADI puts the power back in your hands.

Other Available Online Tools

- ADIsimPower: dc-to-dc power management tool
- Supervisory parametric search tool

Downloadable Excel-Based Tools

- ADI linear regulator parametric search and design
- ADP161x boost design tool
- ADP1864 buck design tool
- ADP2503/ADP2504 buck-boost switching regulator design tool
- ADP210x switching regulator design tool
- ADP2108 dc-to-dc buck design tool
- ADI supervisor parametric search and cross reference



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