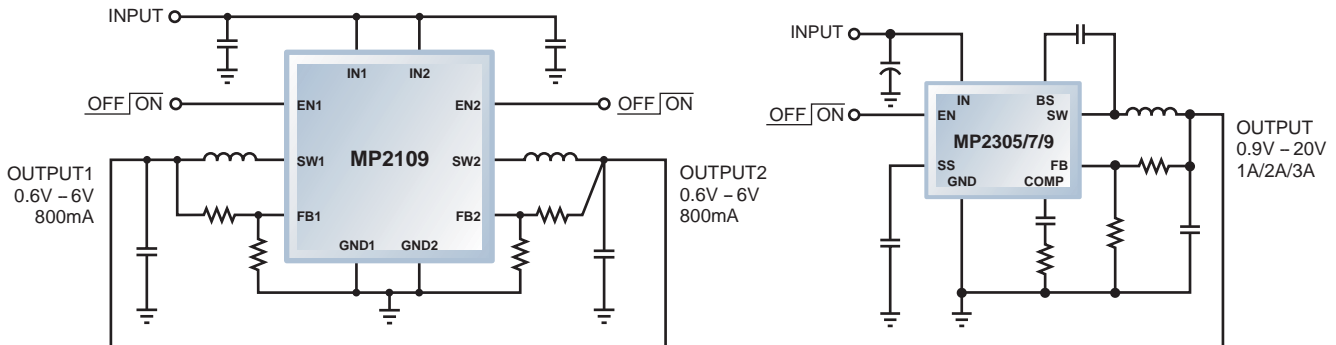


Spartan™-3/3E/3L					
Input Voltage (V)	Load Current				
	≤150mA	≤600mA	≤800mA	≤2A	≤3A
2.5 – 5	MP2104 MP8801	MP2104	MP2105 MP2109	MP2108	
5 – 12	MP2309 MP2351	MP2309 MP2351	MP2309 MP2351	MP2305 MP2361	MP2307 MP1593
12 – 24	MP1591	MP1591	MP1591 MP2364	MP2303 MP1593	MP2303 MP1593



V_{CCAUX} 2.5V V_{CCO} 1.2V - 3.3V V_{CCINT} 1.2V

Xilinx Spartan Series FPGA

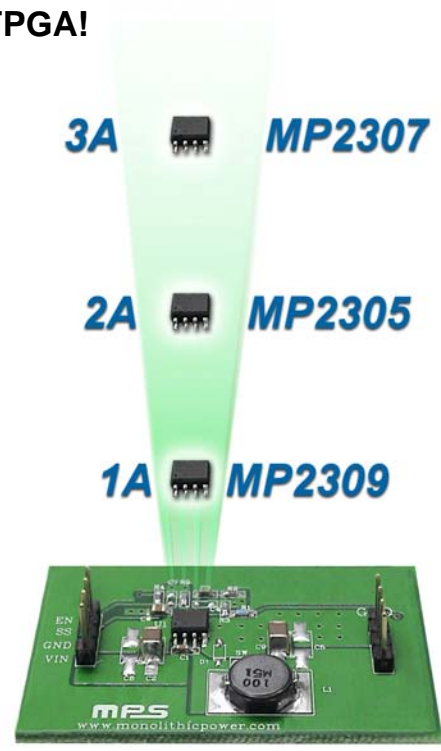
Now your power solution can migrate with your FPGA!

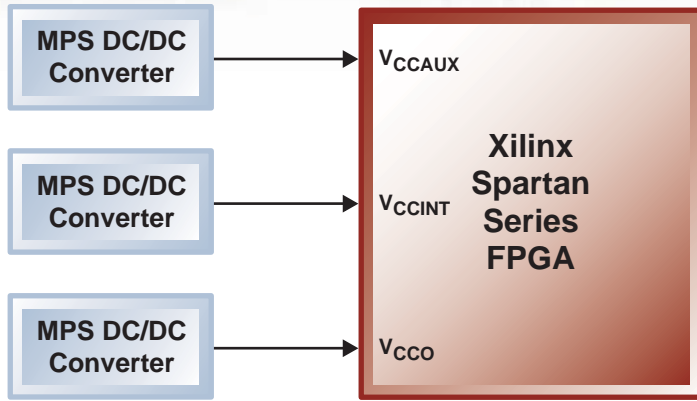
Pin-compatible 1A, 2A and 3A synchronous bucks!

MPS presents the MP2309 and MP2307 23V synchronous step-down regulators. With an output current rating of 1A and 3A respectively, the MP2309 and MP2307 are pin-compatible with the 2A MP2305, forming a power management solution that can easily scale from 1A to 3A without circuit board re-design.

In addition, the footprint of associated external components is the same for all three products.

These attributes allow design engineers to focus on custom logic design with the confidence that their board design will be able to accommodate system power management needs in the most cost efficient manner.





The Xilinx Spartan™-3 Series of Field Programmable Gate Arrays (FPGAs) provide high performance while still maintaining a low-cost solution.

Monolithic Power Systems' step-down converters and LDOs are the ideal components for your FPGA power management needs.

Our ICs require minimum board space and provide the high efficiencies required to keep your system power at a minimum.

SYNCHRONOUS STEP-DOWN (BUCK) CONVERTERS										
Part No.	Input Voltage (V)	Load Current (A)	I _{sw} Limit Typ (A)	I _Q Typ (mA)	I _{SHUTDOWN} Typ (μA)	Feedback Voltage (V)	Switching Frequency	Package	Output	Notes
MP2104	2.5 – 6	0.6	1.0	0.4	0.1	0.6	1.7MHz	TSOT23-5	Adj., 1.5V & 1.8V	Internal Comp
MP2105	2.5 – 6	0.8	1.6	0.4	0.1	0.6	1.0MHz	TSOT23-5	Adj.	Internal Comp
MP2109	2.5 – 6	2 x 0.8	1.6	0.4	0.1	0.6	1.2MHz	QFN10-3	Adj.	Dual Output
MP2309	4.75 – 23	1.0	2.0	1.3	1.0	0.923	340kHz	SOIC8	Adj.	External Comp
MP1567	2.6 – 6	1.2	2.0	1.2	0.5	0.905	800kHz	MSOP10 / QFN10-3	Adj.	External Comp
MP2305	4.75 – 23	2.0	3.4	1.3	1.0	0.923	340kHz	SOIC8	Adj.	External Comp
MP2106	2.6 – 15	1.5	2.5	1.2	0.5	0.9	800kHz	MSOP10 / QFN10-3	Adj.	Wide Input Voltage
MP1570	4.75 – 23	3.0	5.8	1.3	0.3	1.23	340kHz	SOIC8E	Adj.	External Comp
MP2303	4.75 – 28	3.0	6.0	1.3	0.3	0.8	340kHz	SOIC8E	Adj.	External Comp
MP2307	4.75 – 23	3.0	5.8	1.3	0.3	0.920	340kHz	SOIC8E	Adj.	External Comp
NON-SYNCHRONOUS STEP-DOWN (BUCK) CONVERTERS										
Part No.	Input Voltage (V)	Load Current (A)	I _{sw} Limit Typ (A)	I _Q Typ (mA)	I _{SHUTDOWN} Typ (μA)	Feedback Voltage (V)	Switching Frequency	Package	Output	Notes
MP2351	4.75 – 23	1.5	2.8	1.0	20	1.22	1.45MHz	MSOP10 / QFN10-3	Adj.	Frequency Sync
MP2364	4.75 – 23	2 x 1.5	2.8	2.2	40	0.92	1.4MHz	TSSOP20E	Adj.	Dual Output
MP1591	6.5 – 32	2.0	3.6	1.0	20	1.23	330kHz	SOIC8/E	Adj.	External Comp
MP2354	4.75 – 23	2.0	3.4	1.0	23	1.22	380kHz	SOIC8	Adj.	Frequency Sync
MP2358	4.75 – 23	2.0	3.2	1.1	23	0.92	380kHz	QFN10 / SOIC8	Adj.	External Comp
MP2361	4.75 – 23	2.0	2.8	1.1	23	0.92	1.4MHz	MSOP10 / QFN10-3	Adj.	External Comp
MP1593	4.75 – 28	3.0	4.7	1.0	20	1.22	385kHz	SOIC8E	Adj.	External Comp
MP2355	4.75 – 23	3.0	4.3	1.0	20	1.22	380kHz	SOIC8E	Adj.	External Comp
LOW DROPOUT, LINEAR REGULATORS										
Part No.	Input Voltage (V)	V _{RMS} (nV/√Hz)	Load Current (mA)	Load Regulation (%/mA)	I _{SHUTDOWN} Typ (μA)	Feedback Voltage (V)	Dropout Voltage (V)	Package	Output	Notes
MP8801	2.7 – 6.5	300	150	0.001	0.1	1.22	0.100 @ 100mA	TSOT23-5	Adj., 2.5V, 2.85V & 3.3V	Low 125μA Ground Current
MP2000	1.35 - 6	300	150	0.001	7	0.5	0.250 @ 100mA	TSOT23-5	Adj., 1.0V	Low 65μA Ground Current
MP8802	2.7 – 6.5	300	250	0.001	0.1	1.22	0.250 @ 250mA	TSOT23-5	Adj., 2.5V, 2.85V & 3.3V	Low 125μA Ground Current

"MPS" and "The Future of Analog IC Technology" are trademarks of Monolithic Power Systems, Inc.

"Spartan" is a trademark of Xilinx Inc.