

## PMIC Powers High-Performance MPUs And FPGAs

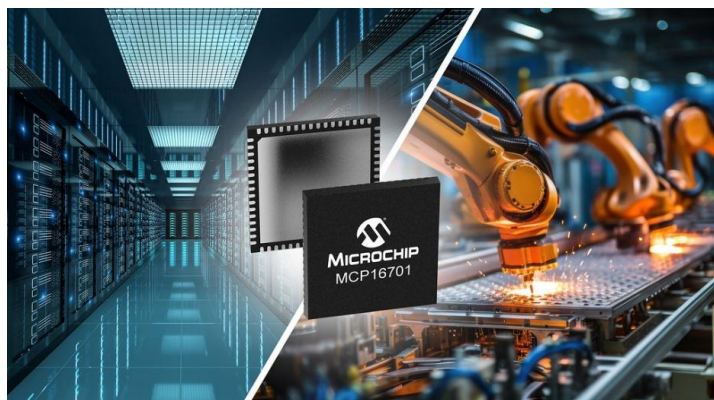
[Microchip Technology's](#) MCP16701 power management IC (PMIC) is designed to meet the needs of high-performance MPU and FPGA designers. It integrates eight 1.5-A buck converters that can be paralleled, four 300-mA internal low dropout regulators (LDOs) and a controller to drive external MOSFETs.

Housed in an 8-mm × 8-mm VQFN package, the MCP16701 offers a compact and flexible power management solution for space-constrained applications. The MCP16701 meets diverse power needs, while supporting Microchip's PIC64-GX MPU and PolarFire FPGAs with a configurable feature set (see Figs. 1 and 2).

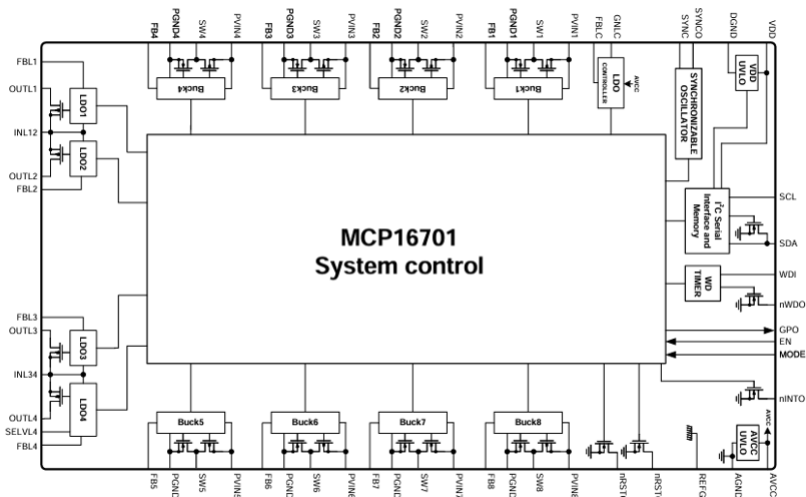
The MCP16701 features an I<sup>2</sup>C communication interface to simplify and enhance communication efficiency between the PMIC and other system components. The device operates within a T<sub>J</sub> temperature range of -40°C to +105°C.

A key feature of the MCP16701 is its ability to dynamically change Vout levels for all converters in 12.5-mV/25 mV increments. This flexibility allows designers to fine-tune power delivery to meet specific application requirements. The PMIC is supported by the EV23P28A evaluation board and GUI.

The MCP16701 is available for \$3.00 each in 10,000-unit quantities. For additional information and to purchase, contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's [website](#). For more information see the PMICs [page](#) and the MCP16701 Evaluation Board [page](#).



(a)



(b)

*Fig. 1. According to the vendor, the highly integrated MCP16701 can reduce board area requirements by 48% with less than 60% of the component count of a discrete solution. A package photo (a) and internal block diagram (b) are shown here.*

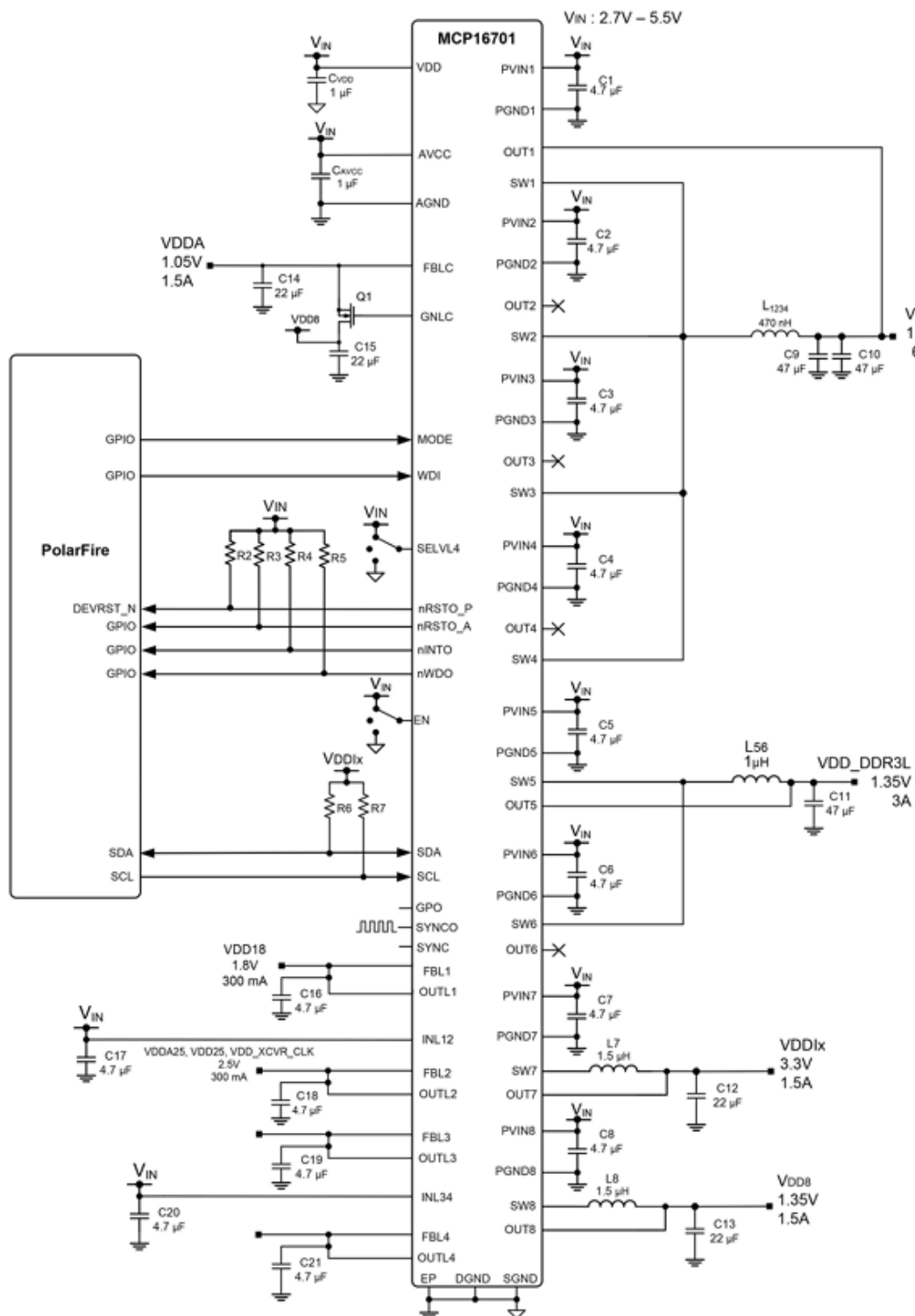


Fig. 2. Polarfire FPGA typical application diagram. To address the rising power demands driven by AI, Microchip has launched the MCP16701 PMIC which integrates eight parallel buck converters, four LDOs and a controller to drive external MOSFETs in an 8-mm × 8-mm VQFN. A key feature of the MCP16701 is its ability to dynamically change  $V_{out}$  levels for all converters in 12.5-mV/25 mV increments.