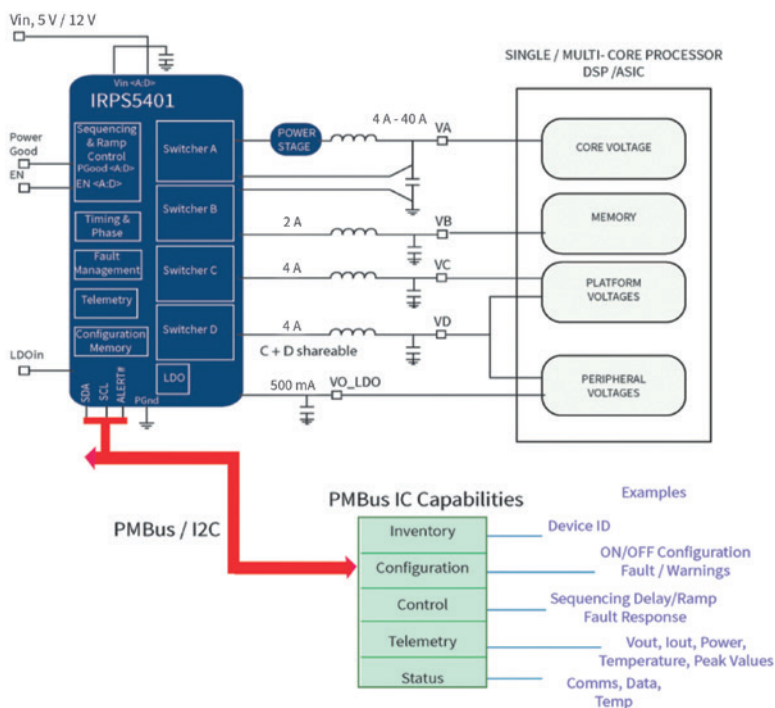Product Brief

Multi-Output PMIC with Integrated Sequencer

IRPS5401

The IRPS5401 is an integrated power management IC ideal for tight board space requirements; for example, FPGAs, System On Chip ASICs and multi-core processors containing several voltages that require precision accuracy and voltage sequencing.

Typical Application

Industry reference Designs
IRPS5401 is designed to support several industry ASICs, FPGA's and SOCs.

www.infineon.com/xilinx
www.infineon.com/altera

Key features

› Multi-output DC/DC with integrated FETs and Sequencer
› 4 switchers and 1 LDO in one package
  – Output A: 2 A (without), 50 A (with power stage)
  – Output B: 2 A
  – Outputs C,D: 4 A
  – Linear regulator: +/-0.5 A
› Full PMBus: Margining, Fault Management, Telemetry

Key benefits

› Simplified BOM: Replace many regulators with one PMIC
› Design re-use: One design is scalable to cover wide range of FPGAs and ASICs
› Lower total solution cost: Eliminates external sequencer
› 35% board area reduction: High level integration and component reduction

Target Applications

› High density ASIC, FPGA & CPU multi-rail systems
› Xilinx Zynq ZU02 to ZU19 Embedded Computing systems
› Communications and Storage systems
› Telecom
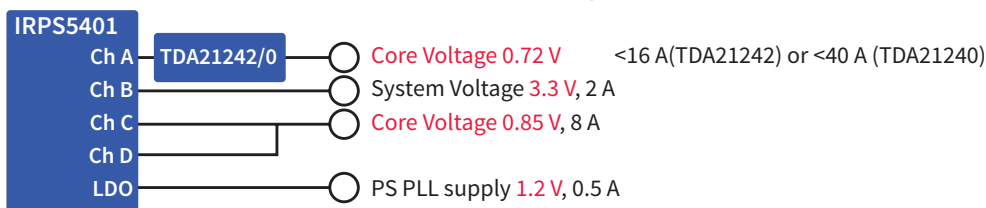› Video Processing
› IoT
› Instrumentation

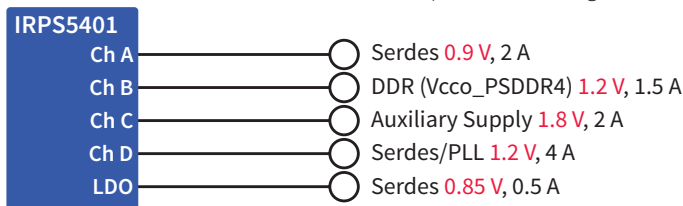# Multi-Output PMIC with Integrated Sequencer

IRPS5401

Scalable Power Options for Power Design Flexibility

IRPS5401's flexibility easily addresses different types of ASICs and FPGAs. With the addition of an external power stage shown in example 1, it can easily address high current requirements.

Example PMIC Configuration 1

IRPS5401		
Ch A	TDA21242/0	Core Voltage 0.72 V <16 A(TDA21242) or <40 A (TDA21240)
Ch B		System Voltage 3.3 V, 2 A
Ch C		Core Voltage 0.85 V, 8 A
Ch D		
LDO		PS PLL supply 1.2 V, 0.5 A

Example PMIC Configuration 2

IRPS5401	
Ch A	Serdes 0.9 V, 2 A
Ch B	DDR (Vcco_PSDDR4) 1.2 V, 1.5 A
Ch C	Auxiliary Supply 1.8 V, 2 A
Ch D	Serdes/PLL 1.2 V, 4 A
LDO	Serdes 0.85 V, 0.5 A

Compact Power Solutions Includes Sequencer

Complete ASIC/FPGA power solution including sequencer in 295mm^2 represents a 35% reduction over traditional solutions.

Part Number	Application	Status
IRPS5401MTRPBF	Blank, unprogrammed part for general use	Active & Preferred
IRPS5401MXI03TRP	Pre-programmed for Xilinx Zynq UltraScale+ ZU02 to ZU09	Coming Soon
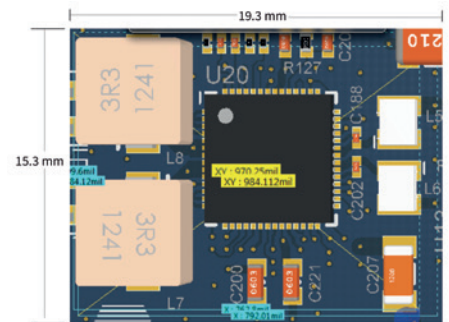
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