Fly-Buck Bias Solution for MCU and RS-485

(ACTIVE) PMP9474

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Fly-Buck Bias Solution for MCU and RS-485

Fully assembled board (shown above) developed for testing and performance validation only, not available for sale.

Description

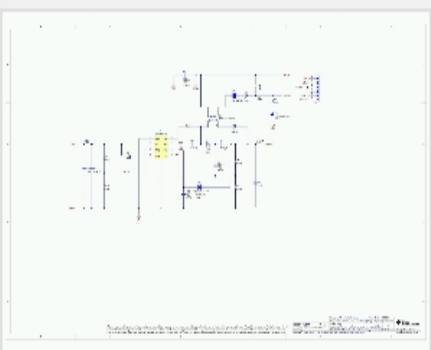
The PMP9474 reference design is Fly-Buck solution, with two outputs, one non-isolated power supply, 3.3V@300mA, for MCU, one isolated power supply, 5V@100mA, for RS-485. The most important feature of this design is ultra compact solution size, which is only 26mmx14.5mm. The design uses the LM5017 synchronous buck converter configured as a Fly-Buck regulator. With the benefit of primary side regulation, the supply has the output regulated without the opto-coupler or additional transformer winding. The LM5017 has a wide Vin range which is up to 100V and 600mA output current capability with integrated switch FETs. The input voltage to the reference board can be loosely regulated with a range of 18V to 36V.

Features

- One non-isolated 3.3V output, one isolated 5V output;
- Fly-Buck converter design;
- Ultra compact size, only 26mm x 14.5mm;
- 83% peak efficiency.
- LM5017 sync buck regulator, up to 100V wide Vin range, 600mA capability
- This circuit board is tested, and the design files and test report are included.

Schematic/Block Diagram

Quickly understand overall system functionality.



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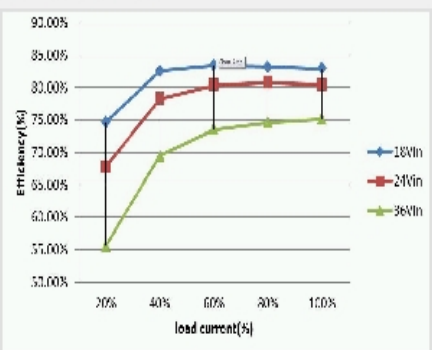

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Design Files

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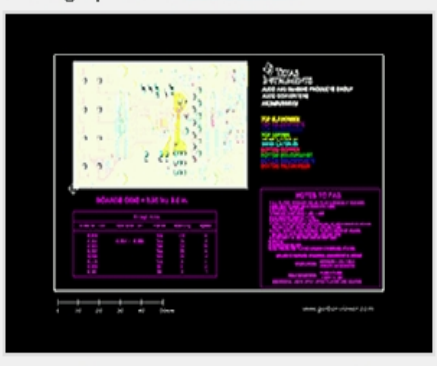

Download Design Files

Bill of Materials (BOM)

Find the complete list of components in this reference design.

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Part Number	Status
PMP9474: Fly-Buck Bias Solution for MCU and RS-485	ACTIVE

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TI Devices (1)

Order samples, get tools and find more information on the TI products in this reference design.

Part Number	Name	Product Family	Sample & Buy	Design Kits & Evaluation Modules
LM5017	7.5-100V Wide Vin, 600mA Constant On-Time Synchronous Buck Regulator	Converter (Integrated Switch)	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
LM5017	HSOP (DDA) | 8	Download	Download
	WSON (NGU) | 8	Download	Download

Texas Instruments and Accelerated Designs Inc. have collaborated together to provide TI customers with schematic symbols and PCB layout footprints for TI products.

Step 1: Download and install the Ultra Librarian software ZIP: 62MB

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Technical Documents

User guides (1)

Title	Abstract	Type	Size (KB)	Date	Views
PMP9474 Test Results		PDF	985	02 Mar 2015	0

Design files (3)

Title	Abstract	Type	Size (KB)	Date	Views
PMP9474 Gerber		ZIP	84	02 Mar 2015	0
PMP9474 BOM		PDF	27	02 Mar 2015	0
PMP9474 Schematic		PDF	111	02 Mar 2015	0

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- Industrial Monitor

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