

# Universal AC Input, Dual 12V, -8.5V Output Quasi-Resonant Flyback Converter Reference Design

(ACTIVE) PMP10150.1

Description & Features

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## Key Document

**PMP10150 Test Results** (PDF 1030 KB)  
14 Sep 2015 36 views

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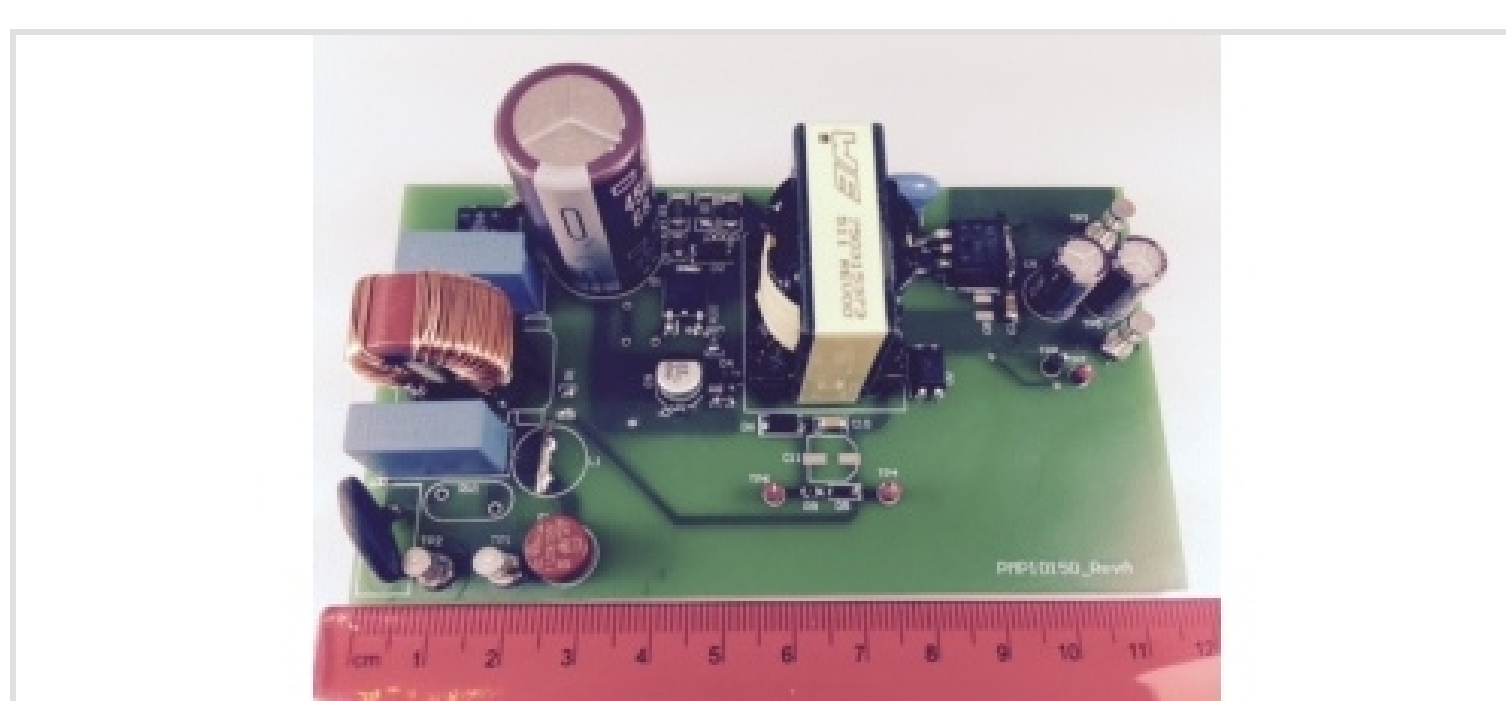
## Description

The PMP10150 reference design uses the UCC28600 quasi-resonant flyback controller to generate a 12V and a -8.5V output from an universal AC input. An optocoupler is used to regulate the 12V output.

## Features

- 8.5V output referenced to primary side, 12V output referenced to secondary side
- 30W output power
- Peak efficiency of 84%
- Fully built and tested design
- Board dimensions: 116mm x 65mm

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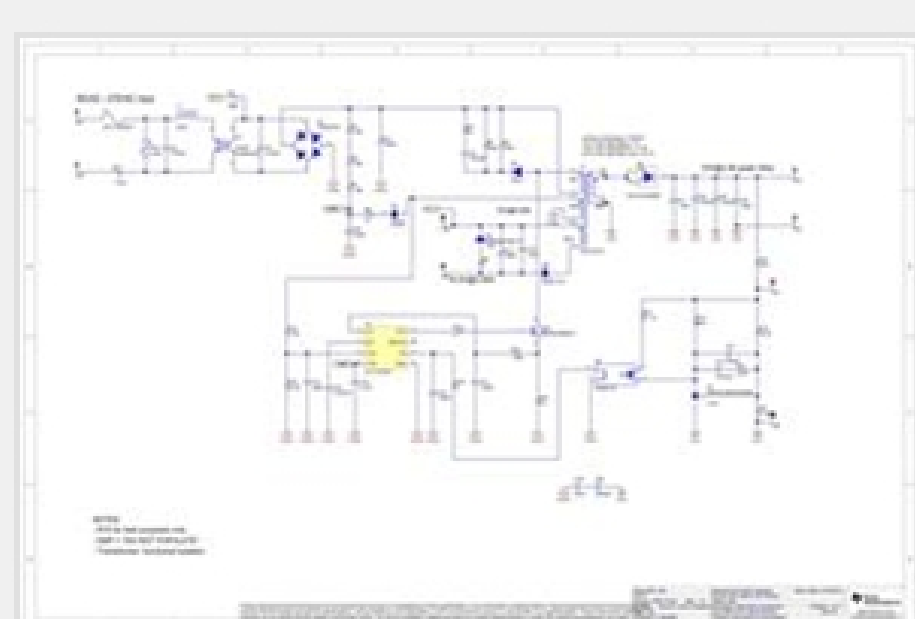


PMP10150.1 Universal AC Input, Dual 12V, -8.5V Output Quasi-Resonant Flyback Converter Reference Design Board Image

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

## Schematic/Block Diagram

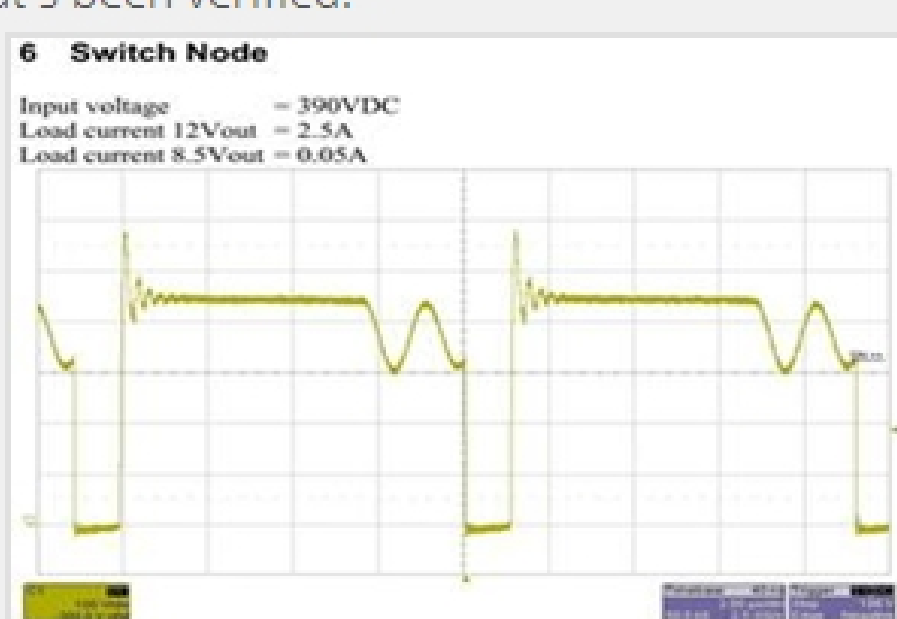
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## Design Guide

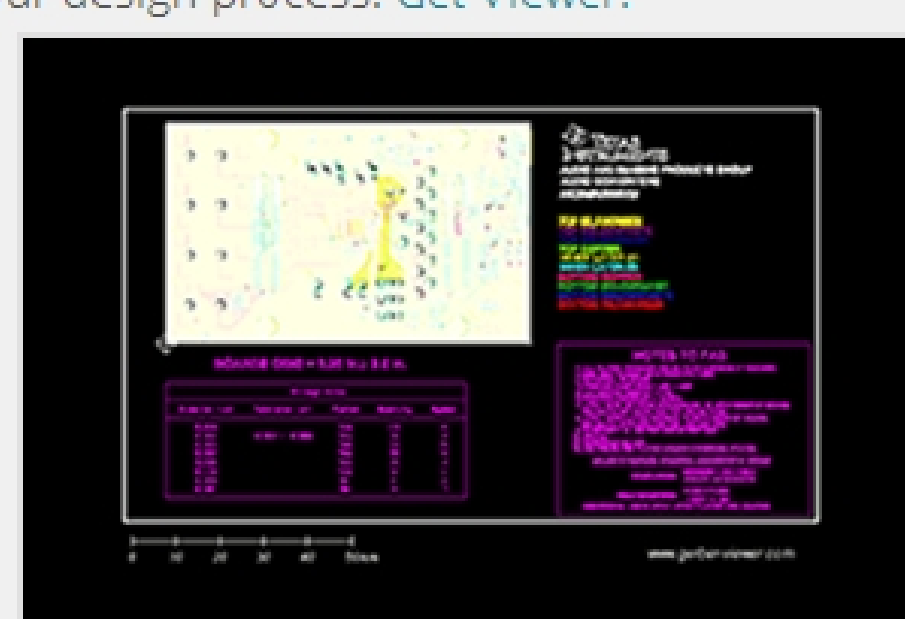
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## Design Files

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## Bill of Materials (BOM)

Find the complete list of components in this reference design.

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## Parametrics

	PMP10150.1
Vin (Min) (V)	85
Vin (Max) (V)	275
Vout (Nom) (V)	12
Iout (Max) (A)	2.5
Output Power (W)	30
Isolated/Non-Isolated	Isolated
Input Type	AC
Topology	Flyback- Quasi Resonant

## TI Devices (2)

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
LMV431A	Low-Voltage (1.24V) Adjustable Precision Shunt Regulators	Voltage Reference	<a href="#">Sample &amp; Buy</a>	Not Available
UCC28600	8-Pin Quasi Resonant Flyback Green Mode Controller	Offline and Isolated DC/DC Controllers and Converters	<a href="#">Sample &amp; Buy</a>	<a href="#">View Design Kits &amp; Evaluation Modules</a>

## CAD/CAE symbols

Part #	Package   Pins	CAD File (.bxl)	STEP Model (.stp)
LMV431A	SOT (DBZ)   3	<a href="#">Download</a>	<a href="#">Download</a>
	TO-92 (LP)   3	<a href="#">Download</a>	<a href="#">Download</a>
UCC28600	SOIC (D)   8	<a href="#">Download</a>	<a href="#">Download</a>

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

Step 2: Download the Symbol and Footprint .bxl file.

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## Technical Documents

## User guides (1)

Title	Abstract	Type	Size (KB)	Date	Views	TI Recommends
<a href="#">PMP10150 Test Results</a>		PDF	1030	14 Sep 2015	36	✓

## Design files (3)

Title	Abstract	Type	Size (KB)	Date	Views
<a href="#">PMP10150 CAD Files</a>		ZIP	493	14 Sep 2015	11
<a href="#">PMP10150 BOM</a>		PDF	124	14 Sep 2015	35
<a href="#">PMP10150 Schematic</a>		PDF	151	08 Sep 2015	70

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