Low Vin Flyback Reference Design for High Voltage Laser Flash Drive

(ACTIVE) PMP10666

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Key Document

- PMP10666 Test Results (PDF 2755 KB)
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PMP10666 Low Vin Flyback Reference Design for High Voltage Laser Flash Drive Board Top View

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

Description

PMP10666 is a 12W isolated flyback design that supports very low Vin of 3.3V-6V and is capable of delivering 100mA at 120V output. The design uses LM3481 Boost controller IC which works on current mode operation and can be synchronized to any frequency between 100KHz to 1 MHz.

This design was built on a 2 layer board and is a simple, low-BOM-count, and low-cost design providing an isolated output.

Features

- Low Cost Flyback design for low Vin to High voltage output
- Ultra Low Footprint Area for LM3481 Actual Power Stage
- 100-kHz to 1-MHz Adjustable Synchronizable Clock Frequency and limits the inrush current at start-up
- IC capable of 3V to 40V in

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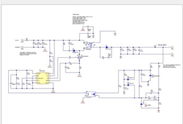
Schematic/Block Diagram

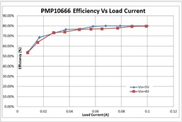
Quickly understand overall system functionality.



Download Schematic

Test Data

Get results faster with test and simulation data that's been verified.



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Design Files

Download ready-to-use system files to speed your design process. Get Viewer.

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Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

Parametrics

	PMP10666
Vin (Min) (V)	3.5
Vin (Max) (V)	5.5
Vout (Nom) (V)	120
Iout (Max) (A)	.1
Output Power (W)	12
Isolated/Non-Isolated	Isolated
Input Type	DC
Topology	Flyback- Non Sync

TI Devices (3)

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
CSD18504Q5A	40V, N-Channel NexFET™ Power MOSFET	Power MOSFET	Sample & Buy	Not Available
LM3481	High-Efficiency Controller for Boost, SEPIC and Flyback DC-DC Converters	Controller (External Switch)	Sample & Buy	View Design Kits & Evaluation Modules
TL431A	Adjustable Precision Shunt Regulator	Voltage Reference	Sample & Buy	Not Available

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
LM3481	VSSOP (DGS) | 10	Download	Download
TL431A	SOT (DBZ) | 3	Download	Download
	TO-92 (LP) | 3	Download	Download
	SIP (PK) | 3	Download	-
	SOT (DBV) | 5	Download	Download
	SOT (DCK) | 6	Download	Download
	SOIC (D) | 8	Download	Download
	PDIP (P) | 8	Download	Download
	SOP (PS) | 8	Download	-
	TSSOP (PW) | 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

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

- read more -

Technical Documents

User guides (2)

Title	Abstract	Type	Size (KB)	Date	Views	TI Recommends
PMP10666 Transformer Specification (Wurth Electronik)		PDF	153	14 Sep 2015	8	
PMP10666 Test Results		PDF	2755	08 Sep 2015	14	✓

Design files (3)

Title	Abstract	Type	Size (KB)	Date	Views
PMP10666 Gerber		ZIP	186	08 Sep 2015	6
PMP10666 BOM		PDF	22	08 Sep 2015	15
PMP10666 Schematic		PDF	213	08 Sep 2015	21

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