40W Buck Converter Powered out of 48V Reference Design

(ACTIVE) PMP10135

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Key Document

- PMP10135 Test Results (PDF 1618 KB) 11 May 2015

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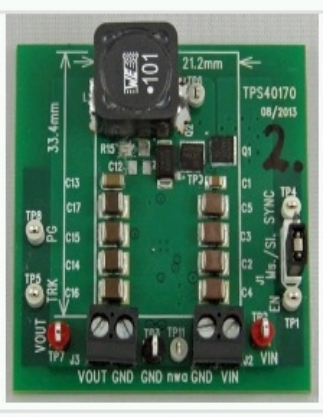

PMP10135 40W Buck Converter powered out of 48V Reference Design Board Image

Description

PMP10035 is a sycnchronous buck converter with 48V input voltage and 31V output voltage. Due to ceramic capacitors only this design is suitable for automotive applications (48V bus). With switching frequency of 400kHz, the efficiency is higher than 96% at full load.

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

Features

- Small outline (21.6mm x 33.4mm)
- Ceramic capacitors only
- Low temparature rise at full load
- 48V input
- 31V output @ 1.3A

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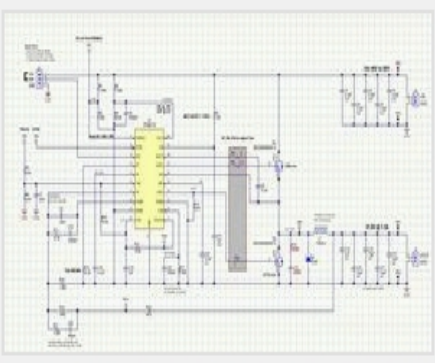
Schematic/Block Diagram

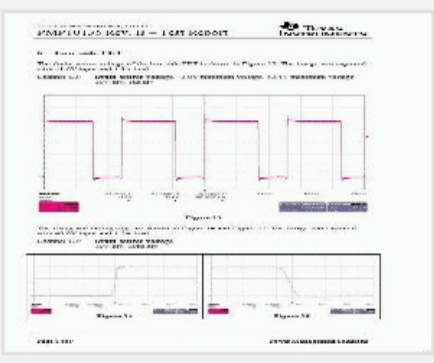
Quickly understand overall system functionality.



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

	PMP10135
Vin (Min) (V)	46
Vin (Max) (V)	50
Vout (Nom) (V)	31
Iout (Max) (A)	1.3
Output Power	40.3
Isolated/Non-Isolated	Non-Isolated
Input Type	DC
Topology	Buck- Synchronous

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
TPS40170	4.5 V to 60 V Wide-Input Synchronous PWM Buck Controller	Controller (External Switch)	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
TPS40170	VQFN (RGY) | 20	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 (1)

Title	Abstract	Type	Size (KB)	Date	Views	TI Recommends
PMP10135 Test Results		PDF	1618	11 May 2015	0	✓

Design files (5)

Title	Abstract	Type	Size (KB)	Date	Views
PMP10135 Gerber (from PMP8665)		ZIP	63	11 May 2015	0
PMP10135 CAD Files		ZIP	115	11 May 2015	0
PMP10135 PCB (from PMP8665)		PDF	101	11 May 2015	0
PMP10135 BOM		PDF	79	11 May 2015	0
PMP10135 Schematic		PDF	137	11 May 2015	0

Applications

- Automotive - Lighting

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