48Vin, 300W 1/8brick Digital Module with GaN FET Reference Design

(ACTIVE) PMP4435.4

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Key Document

- PMP4435 Test Results (PDF 625 KB)
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PMP4435.34 48Vin, 300W 1/8brick Digital Module with GaN FET Reference Design Top of Board Image

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

Description

The PMP4435 is a DC-DC isolated digital module with GaN mosfet reference design targeted for industrial and telecom applications. The DC input range is 36V-60V, with 12V typical and the output is 12V/5A. An digital controller UCD3138A is used in the design. The efficiency is up to 95.8% with good thermal performance.

Features

- High Efficiency up to 95.8%
- LM5113+ GaN Mosfets
- Protection feature OCP, OVP
- Full Digital Control for HSFB DC-DC
- Good thermal performance with Full Load
- Full comply with the telecom customer requirements

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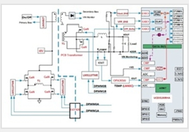
Schematic/Block Diagram

Quickly understand overall system functionality.



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Design Guide

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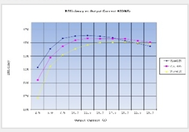

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Design Files

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

	PMP4435.4
Vin (Min) (V)	7
Vin (Max) (V)	14
Vout (Nom) (V)	5
Iout (Max) (A)	.5
Output Power (W)	2.5
Isolated/Non-Isolated	Non-Isolated
Input Type	DC
Topology	Buck- Synchronous

TI Devices (7)

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
ISO7420	Low Power Dual Channel Isolators	Isolation	Sample & Buy	View Design Kits & Evaluation Modules
LM34927	7.5-100V Wide Vin, 600mA Integrated Secondary Bias Regulator for Isolated DC/DC Converters	Offline and Isolated DC/DC Controllers and Converters	Sample & Buy	View Design Kits & Evaluation Modules
LM5113	5A, 100V Half-Bridge Gate Driver for Enhancement Mode GaN FETs	Gallium Nitride (GaN) Solutions	Sample & Buy	View Design Kits & Evaluation Modules

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CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
ISO7420	SOIC (D) | 8	Download	Download
LM5113	WSON (DPR) | 10	Download	Download
	DSBGA (YFX) | 12	Download	-
LM60	SOT (DBZ) | 3	Download	Download
	TO-92 (LP) | 3	Download	Download
OPA365	SOT (DBV) | 5	Download	Download
	SOIC (D) | 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.

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Technical Documents

User guides (1)

Title	Abstract	Type	Size (KB)	Date	Views	TI Recommends
PMP4435 Test Results		PDF	625	01 Oct 2015	68	✓

Design files (4)

Title	Abstract	Type	Size (KB)	Date	Views
PMP4435 Altium		ZIP	1498	01 Oct 2015	38
PMP4435 PCB		PDF	14242	01 Oct 2015	34
PMP4435 BOM		PDF	135	01 Oct 2015	45
PMP4435 Schematic		PDF	970	01 Oct 2015	115

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