Reference Design - High Efficiency Two-Phase Synchronous Buck Delivers 300W

(ACTIVE) PMP9700

Description & Features | Technical Documents | Support & Community | Order Now

View the Important Notice for TI Designs covering authorized use, intellectual property matters and disclaimers.

Reference Design - High Efficiency Two-Phase Synchronous Buck Delivers 300W (top view)

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

Description

This two-phase synchronous buck operates from 24VDC and supplies an output of 15V@20A. Operation at 300KHz (per phase) delivers small size and greater than 96% efficiency.

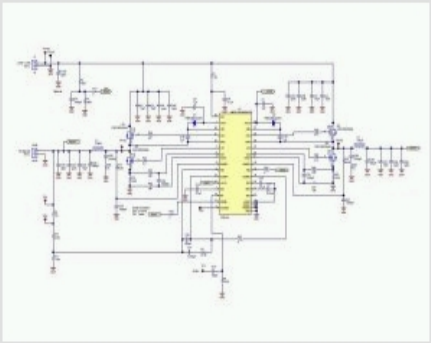
Features

- Efficiency approaches 97% at 12A load
- Board length is approximately 94 mm
- Reduced component size due to two phase operation
- Test report available

TI's Standard Terms and Conditions for Evaluation Modules apply.

Schematic/Block Diagram

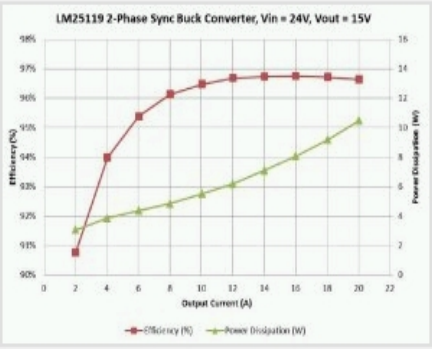
Quickly understand overall system functionality.



Download Schematic

Test Data

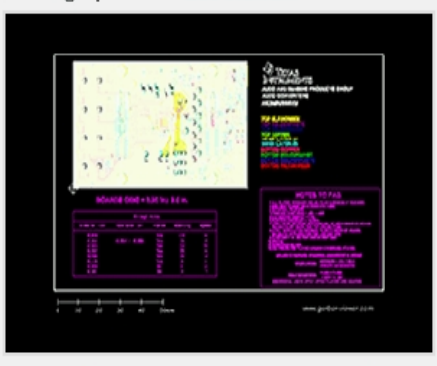
Get results faster with test and simulation data that's been verified.



Download Test Data

Design Files

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



Download Design Files

Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

Parametrics

	PMP9700
Vin (Min) (V)	23
Vin (Max) (V)	25
Vout (Nom) (V)	15
Iout (Max) (A)	20
Output Power	300
Isolated/Non-Isolated	Non-Isolated
Input Type	DC
Topology	Buck- Multiphase

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
CSD18503Q5A	40V N-Channel NexFET™ Power MOSFET, CSD18503Q5A	Power MOSFET	Sample & Buy	Not Available
LM25119	4.5-42V Wide Vin, Current Mode Dual Synchronous Buck Controller	Controller (External Switch)	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
LM25119	WQFN (RTV) | 32	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 (1)

Title	Abstract	Type	Size (KB)	Date	Views
PMP9700 Test Results		PDF	2990	15 Apr 2015	0

Design files (3)

Title	Abstract	Type	Size (KB)	Date	Views
PMP9700 Gerber		ZIP	190	15 Apr 2015	0
PMP9700 BOM		PDF	34	15 Apr 2015	0
PMP9700 Schematic		PDF	139	15 Apr 2015	0

Applications

- TV: High-Definition (HDTV)

Support & Community

TI E2E™ community

TI E2E™ Community

As a member of my.TI you can join the TI E2E™ Community where you can ask questions, share ideas and collaborate with fellow engineers and TI experts

Contents are provided "AS IS" by the respective TI and Community contributors and do not constitute TI specifications. See Terms of use.

Engage in the Community

- Amplifiers
- Broadband RF/IF & Digital Radio
- Clocks & Timers
- Data Converters
- DLP® & MEMS
- Interface
- Logic
- Power Management
- Wireless Connectivity

Wikis

Visit the TI Wiki

Other Support

- TI E2E Community
- Contact Technical Support

Your History

Products You Recently Viewed

- PMP4447
- PMP9387
- PMP8750.2
- PMP10516
- PMP4408.1

TI is a global semiconductor design and manufacturing company. Innovate with 100,000+ analog ICs and embedded processors, along with software, tools and the industry's largest sales/support staff.

© Copyright 1995-2015 Texas Instruments Incorporated. All rights reserved.
Trademarks | Privacy policy | Terms of use | Terms of sale