Single Phase 60W Audio Amplifier Reference Design

(ACTIVE) PMP9372

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Key Document

- PMP9372 Test Results (PDF 1190 KB)
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PMP9372 Single Phase 60W Audio Amplifier Reference Design Board Top View

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

Description

PMP9372 is a single-phase synchronous boost converter, which utilizes the LM5121 controller. Inrush limiting is set to 11A nominal, which allows startup into a 4700µF output capacitor. The TPS3700DDC is used as an output voltage monitor, which provides Power Good signaling of output over-voltage and under-voltage.

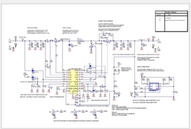
Features

- Single Phase Synchronous Boost Converter
- 60W Pout
- Efficiency 97% at 12V Input
- Input Over Current Disconnect through Series Switch
- Switching frequency 450kHz
- 6 Layer Board

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

Schematic/Block Diagram

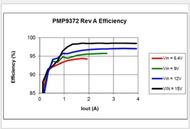
Quickly understand overall system functionality.



Download Schematic

Test Data

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



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Design Files

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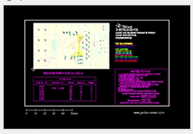

Download Design Files

Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

Parametrics

	PMP9372
Vin (Min) (V)	6.4
Vin (Max) (V)	15
Vout (Nom) (V)	15.45
Iout (Max) (A)	4
Output Power (W)	61.8
Isolated/Non-isolated	Non-Isolated
Input Type	DC
Topology	Boost- Synchronous

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
CSD17309Q3	30V N Channel NexFET™ Power MOSFET	Power MOSFET	Sample & Buy	View Design Kits & Evaluation Modules
LM5121	3-65V Wide Vin, Current Mode Synchronous Boost with Disconnection Switch Control	Controller (External Switch)	Sample & Buy	View Design Kits & Evaluation Modules
TPS3700	High-Voltage (18V) Window Comparator with Over- and Undervoltage Detection	Power Management	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
CSD17309Q3	VSON-CLIP (DQG)| 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
PMP9372 Test Results		PDF	1190	29 Sep 2015	29	✓

Design files (5)

Title	Abstract	Type	Size (KB)	Date	Views
PMP9372 Gerber		ZIP	197	29 Sep 2015	9
PMP9372 Altium		ZIP	478	29 Sep 2015	14
PMP9372 PCB		PDF	402	29 Sep 2015	10
PMP9372 BOM		PDF	114	29 Sep 2015	18
PMP9372 Schematic		PDF	132	29 Sep 2015	75

Applications

- Audio Dock: Basic
- Audio Dock: Performance
- Audio Dock: Portable

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