Low Profile, Low Noise DC/DC Converter Reference Design

TIDesigns

(ACTIVE) PMP7038

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Low Profile, Low Noise DC/DC Converter Reference Design (top view)

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

Description

This design is low profile, low noise, works at 5Vdc input voltage and provides 5V/1.5A regulated. TIs UCC25600 resonant controller enables high efficiency even at high switching frequency.

Features

- 80% efficiency at full load
- Low profile (6mm)
- 45ms Startup time
- Low noise
- Galvanic Isolation 4kVrms

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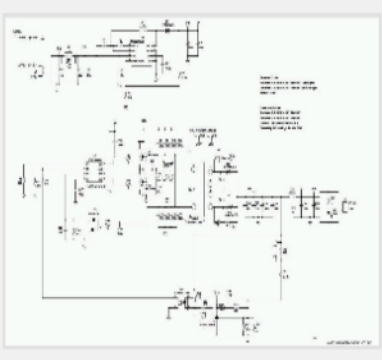
Schematic/Block Diagram

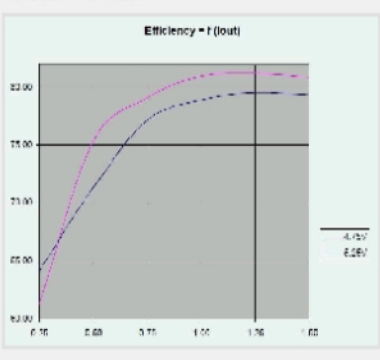
Quickly understand overall system functionality.



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

	PMP7038
Vin (Max) (V)	5.25
Vin (Min) (V)	4.75
Vout (Nom) (V)	5
Iout (Max) (A)	1.5
Output Power	7.5
Isolated/Non-Isolated	Isolated
Input Type	DC
Topology	Half Bridge- LLC

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
TLV431	Low-Voltage Adjustable Precision Shunt Regulator	Voltage Reference	Sample & Buy	Not Available
UCC25600	8-Pin High-Performance Resonant Mode Controller	AC/DC and Isolated DC/DC Power Supply	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
TLV431	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
UCC25600	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.

- read more -

Technical Documents

User Guides (1)

Title	Abstract	Type	Size (KB)	Date	Views
PMP7038 Test Results		PDF	339	12 Jan 2015	12

Design Files (3)

Title	Abstract	Type	Size (KB)	Date	Views
PMP7038 Gerber		ZIP	56	12 Jan 2015	5
PMP7038 BOM		PDF	20	12 Jan 2015	7
PMP7038 Schematic		PDF	95	12 Jan 2015	16

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