

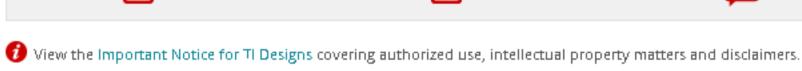
TI Home > TI Designs > Power Management > 230VAC Input, 200kHz 380V/1kW CCM Boost Power Factor Regulator Reference Design

₩Worldwide (In English).

230VAC Input, 200kHz 380V/1kW CCM Boost Power Factor Regulator Reference Design

Technical Documents

(ACTIVE) PMP12074



Key Document

Description & Features

- PMP12074 Test Results (PDF 1472 KB) 09 May 2016 | 50 views
- >> View All Technical Documents (7)

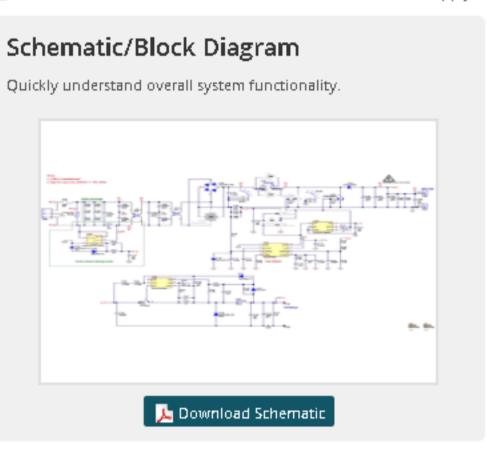
Description

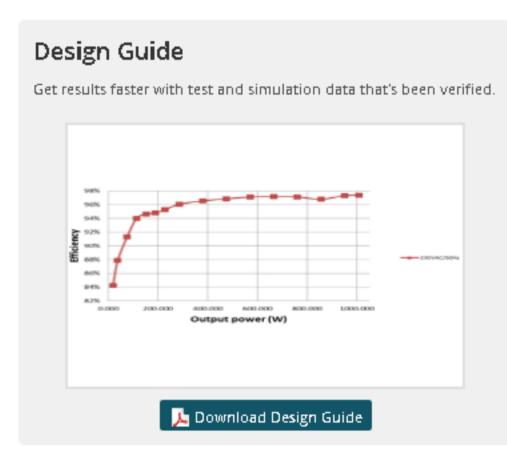
The PMP12074 reference design uses the UCC28180 CCM PFC controller to generate a 380V/1kW output from a 230VAC input. In addition to that, the UCC28722 PSR controller is used as bias supply in this design. Over 97% efficiency is achieved at 230VAC/50Hz input with fixed 200kHz switching frequency.

Features

- Continuous conduction mode boost power factor regulator
- 200kHx switching frequency
- Utilize PFC inductor with ER48 core • 97% peak efficiency @ 230VAC/50Hz
- Conduction EMI test result included



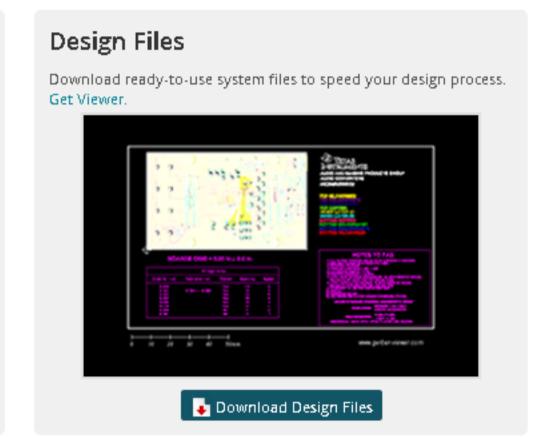






PMP12074 230VAC Input, 200kHz 380V/1kW CCM Boost Power Factor Regulator Reference Design Top of Board Image

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



Bill of Materials (BOM)

Find the complete list of components in this reference design.

🝌 Download BOM

Parametrics

	PMP12074.1 (Output Voltage 1)	PMP12074.2 (Output Voltage 2)
Vin (Min) (V)	176	176
Vin (Max) (V)	264	264
Vout (Nom) (V)	380	15
lout (Max) (A)	2.63	.2
Output Power (W)	999.4	3
Isolated/Non-Isolated	Non-Isolated	Non-Isolated
Input Type	AC	AC
Topology	Boost- PFC	Buck- Non Sync

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			
UCC27511	4A/8A Single Channel High-speed Low-side Gate Driver	MOSFET and IGBT Gate Drivers	Sample & Buy	View Design Kits & Evaluation Modules			
UCC28180	8-Pin Continuous Conduction Mode (CCM) PFC Controller	Offline and Isolated DC/DC Controllers and Converters	Sample & Buy	View Design Kits & Evaluation Modules			
UCC28722	Low-Cost CVCC Flyback Controller With Primary-Side Regulation for Bipolar Power Device	Offline and Isolated DC/DC Controllers and Converters	Sample & Buy	View Design Kits & Evaluation Modules			

CAD/CAE symbols

Part	#	Package Pins	CAD File (.bxl)	STEP Model (.stp)
UCC	27511	SOT (DBV) 6	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 free download. Step 2: Download the Symbol and Footprint from the CAD.bxl file table.

- read more -

Technical Documents

User guides (1)

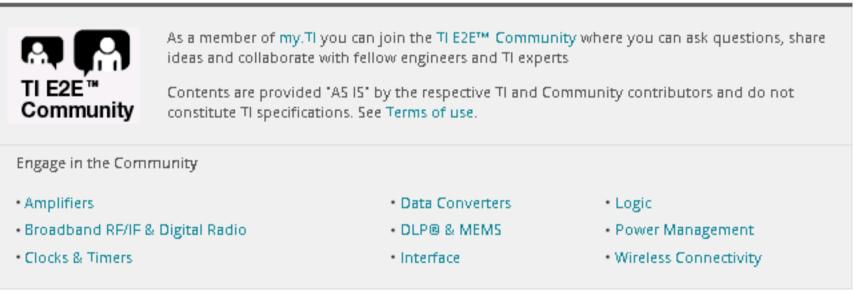
Title	Abstract	Туре	Size (KB)	Date	Views	TI Recommends	
PMP12074 Test Results		PDF	1472	09 May 2016	50	~	

Design files (6)

Title \$	Abstract ♦	Туре 💠	Size (KB) ♦	Date ▼	Views ♦
PMP12074 Gerber (from PMP11062)		ZIP	618	09 May 2016	17
PMP12074 Altium (from PMP11062)		ZIP	1155	09 May 2016	26
PMP12074 PCB (from PMP11062)		PDF	793	09 May 2016	25
PMP12074 Assembly Drawing (from PMP11062)		PDF	92	09 May 2016	22
▶ PMP12074 BOM		PDF	151	09 May 2016	42
PMP12074 Schematic		PDF	177	09 May 2016	77

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