

8V @ 7A Synchronous Boost Reference Design with LM5121

(ACTIVE) PMP10092

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Key Document

PMP10092 Test Results (PDF 1087 KB)
09 Oct 2015 9 views

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Description

The PMP10092 reference design is a synchronous boost converter that can operate over a 3V to 8V input range and produce an 8V output at 7A load. The circuit has an output disconnection switch for safety. Due to the synchronous design a high efficiency of 97% can be achieved.

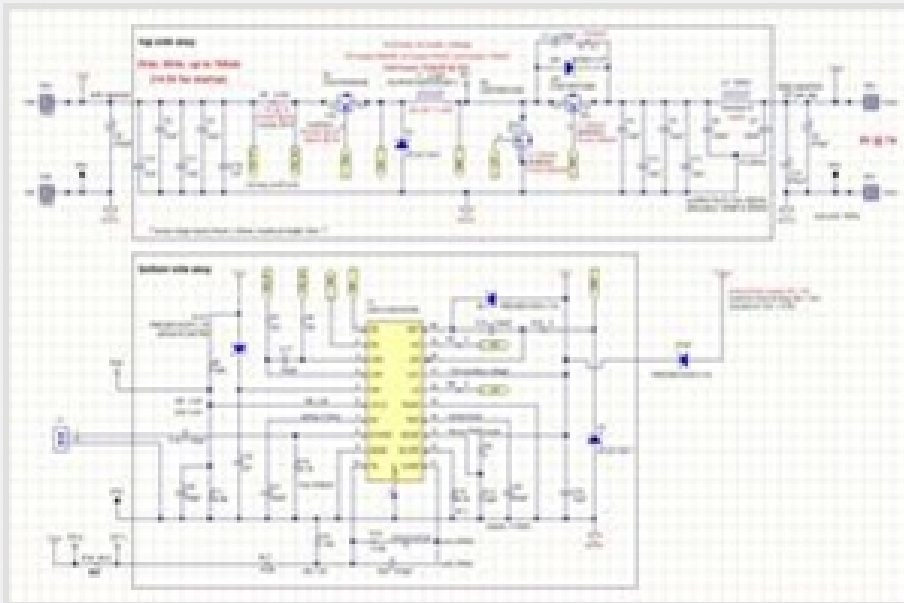
Features

- High Efficiency Synchronous Boost Topology
- Output disconnection switch
- Additional output-filter for low noise output voltage
- Design has been built and tested and complete test report is included

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Schematic/Block Diagram

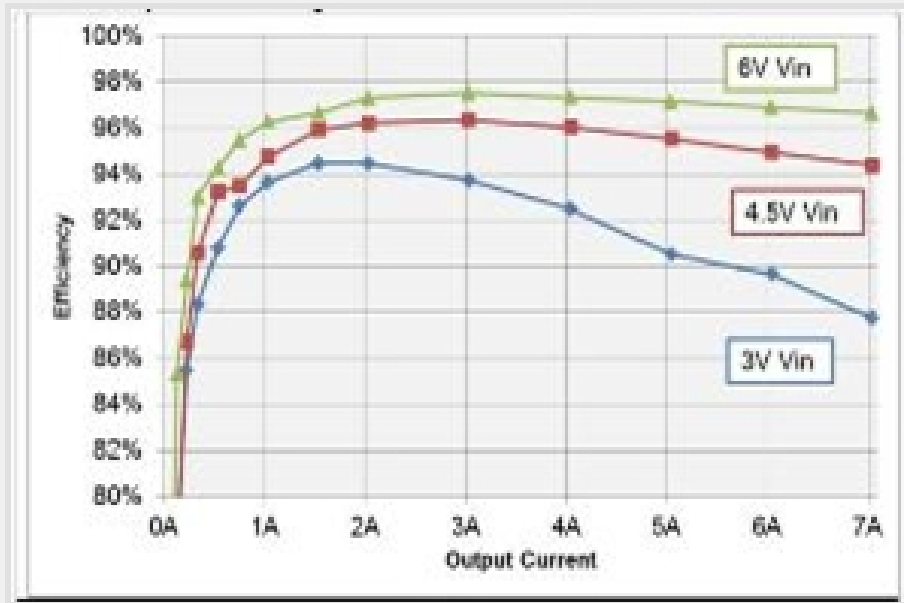
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Design Guide

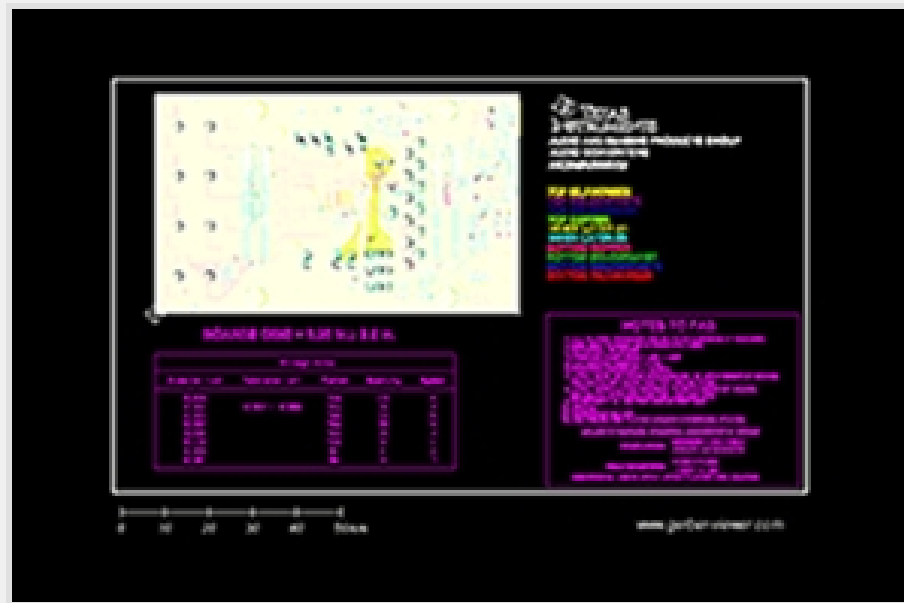
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Design Files

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Bill of Materials (BOM)

Find the complete list of components in this reference design.

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Parametrics

	PMP10092
Vin (Min) (V)	3
Vin (Max) (V)	8
Vout (Nom) (V)	8
Iout (Max) (A)	7
Output Power (W)	56
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
CSD18501Q5A	40V N-Channel NexFET Power MOSFETs, CSD18501Q5A	Power MOSFET	Sample & Buy	Not Available
CSD18509Q5B	40V, N-Channel NexFET(TM) Power MOSFET, CSD18509Q5B	Power MOSFET	Sample & Buy	Not Available
LM5121	3-65V Wide Vin, Current Mode Synchronous Boost with Disconnection Switch Control	Controller (External Switch)	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package Pins	CAD File (.bxl)	STEP Model (.stp)
CSD18501Q5A	VSONP (DQJ) 8	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
PMP10092 Test Results		PDF	1087	09 Oct 2015	9	

Design files (5)

Title	Abstract	Type	Size (KB)	Date	Views
PMP10092 Gerber (from PMP8673)		ZIP	41	09 Oct 2015	2
PMP10092 CAD Files (from PMP8673)		ZIP	377	09 Oct 2015	3
PMP10092 PCB (from PMP8673)		PDF	677	09 Oct 2015	3
PMP10092 BOM		PDF	104	09 Oct 2015	5
PMP10092 Schematic		PDF	419	09 Oct 2015	18

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