38V@2A Synchronous Boost Reference Design

(ACTIVE) PMP10324

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Key Document

- PMP10324 Test Results (PDF 2144 KB)
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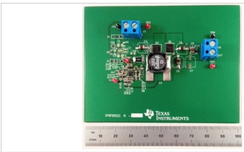

PMP10324 38V@2A Synchronous Boost Reference Design Board image

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

Description

The PMP10324 sync-boost reference design provides 38V @ 2A over a wide input range covering the 24V rail. It uses dual external FETs to achieve a full load efficiency of 97% at 24Vin. This design uses minimal footprint parts with all ceramic capacitors.

Features

- 97% efficiency at 24Vin
- Small size
- Easily supports higher load transients by adding additional output capacitor (see schematic notes)
- This reference design has been lab tested and is supported with design files and an application note

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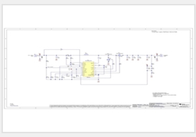
Schematic/Block Diagram

Quickly understand overall system functionality.



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Design Guide

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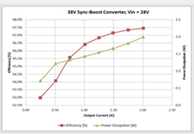

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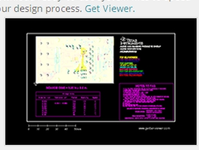
Design Files

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

	PMP10324
Vin (Min) (V)	15
Vin (Max) (V)	28
Vout (Nom) (V)	38
Iout (Max) (A)	2
Output Power (W)	76
Isolated/Non-Isolated	Non-Isolated
Input Type	DC
Topology	Boost- Synchronous

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
CSD18563Q5A	60-V N-Channel NexFET Power MOSFET	Power MOSFET	Sample & Buy	View Design Kits & Evaluation Modules
TPS43061	Low Iq, Synchronous Boost Controller with Wide Input Voltage and 5.5V Gate Drive for Low Qg NexFETs	Controller (External Switch)	Sample & Buy	View Design Kits & Evaluation Modules

Technical Documents

User guides (1)

Title	Abstract	Type	Size (KB)	Date	Views	TI Recommends
PMP10324 Test Results		PDF	2144	30 Nov 2015	17	✓

Design files (6)

Title	Abstract	Type	Size (KB)	Date	Views
PMP10324 Gerber (from PMP8921)		ZIP	194	30 Nov 2015	9
PMP10324 Altium (from PMP8921)		ZIP	15577	30 Nov 2015	13
PMP10324 PCB (from PMP8921)		PDF	614	30 Nov 2015	10
PMP10324 Assembly Drawing (from PMP8921)		PDF	70	30 Nov 2015	15
PMP10324 BOM		PDF	92	30 Nov 2015	15
PMP10324 Schematic		PDF	115	30 Nov 2015	30

Related Tools & Software

Reference Designs (1)

Name	Part Number	Tool Type
270W Dual-Phase Boost Converter for Automotive Applications Reference Design	PMP9595	TI Designs

Applications

- Sounder, Speaker, Strobe

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