# Buck Converter for Negative Input and Output Voltages Reference Design

TIDesigns

(ACTIVE) PMP9624

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## Key Document

- PMP9624 Test Results (PDF 1515 KB) 11 Jun 2015

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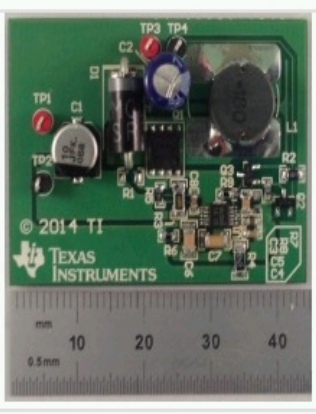

PMP9624 Buck Converter for Negative Input and Output Voltages Reference Design Top of Board

## Description

The PMP9624 utilizes negative input and output voltages. The efficiency approaches 80% at full load with a -18V input, and has good thermal performance.

## Features

- Utilizes negative input and output voltages
- Compact design (approximately 45mm in length)
- Full load efficiency approaches 80% at -18V input
- Test report available

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

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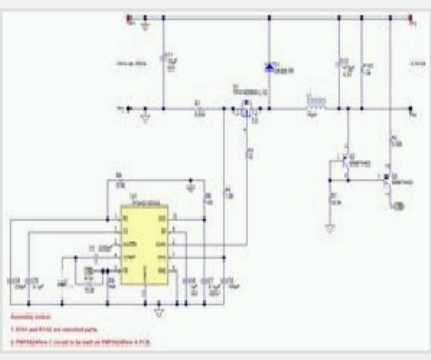
## Schematic/Block Diagram

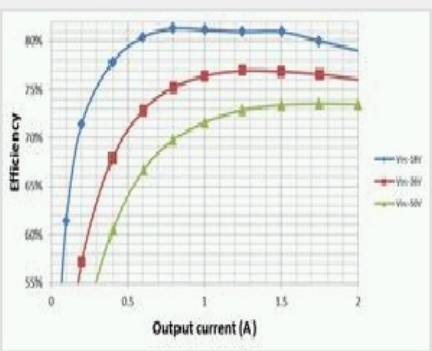
Quickly understand overall system functionality.



Download Schematic

## Test Data

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

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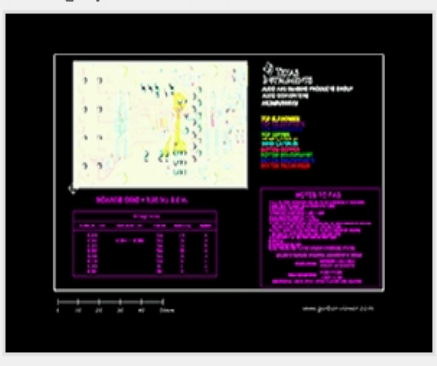
## Design Files

Download ready-to-use system files to speed your design process. Get Viewer.



Download Design Files

## Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

## Parametrics

| | PMP9624 |
|---|---|
| Vin (Min) (V) | -50 |
| Vin (Max) (V) | -18 |
| Vout (Nom) (V) | -3.3 |
| Iout (Max) (A) | 2 |
| Output Power | 6.6 |
| Isolated/Non-Isolated | Non-Isolated |
| Input Type | DC |
| Topology | Buck- Non Sync |

## TI Devices (1)

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 |
|---|---|---|---|---|
| TPS40210 | Wide Input Range Current Mode Boost Controller | Controller (External Switch) | Sample & Buy | View Design Kits & Evaluation Modules |

## CAD/CAE symbols

| Part # | Package \| Pins | CAD File (.bxl) | STEP Model (.stp) |
|---|---|---|---|
| TPS40210 | HVSSOP (DGQ) \| 10 | Download | - |
| | VSON (DRC) \| 10 | 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 | TI Recommends |
|---|---|---|---|---|---|---|
| PMP9624 Test Results | | PDF | 1515 | 11 Jun 2015 | 0 | ✓ |

### Design files (4)

| Title | Abstract | Type | Size (KB) | Date | Views |
|---|---|---|---|---|---|
| PMP9624 Gerber | | ZIP | 223 | 11 Jun 2015 | 0 |
| PMP9624 Assembly Drawing | | PDF | 70 | 11 Jun 2015 | 0 |
| PMP9624 BOM | | PDF | 108 | 11 Jun 2015 | 0 |
| PMP9624 Schematic | | PDF | 115 | 11 Jun 2015 | 0 |

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