15V to 60V Wide Input Four-Output SIMPLE SWITCHER® Reference Design Using LM46002 and LMZ21701

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Description

This reference design demonstrates the wide input voltage capability and small solution size of the LM46002 SIMPLE SWITCHER® Synchronous Buck Converter and the LMZ21701 SIMPLE SWITCHER® Nano Module. The LM46002 provides a regulated 12V rail from an input of 15V to 60V. The 12V rail is then regulated down to 5V, 3.3V, and 1.8V rails using three LMZ21701 nano modules. Each rail can provide up to 1A of load current.

As seen at APEC

15V to 60V Wide Input Four-Output SIMPLE SWITCHER® Reference Design Using LM46002 and LMZ21701

Features

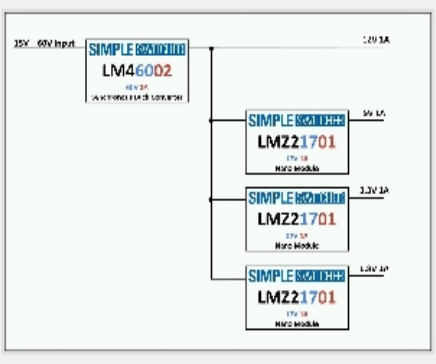
- Wide Input Voltage Range
- Easy to Use
- Small Solution Size
- High Efficiency
- Modular Design

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

TI's Standard Terms and Conditions for Evaluation Modules apply.

Schematic/Block Diagram

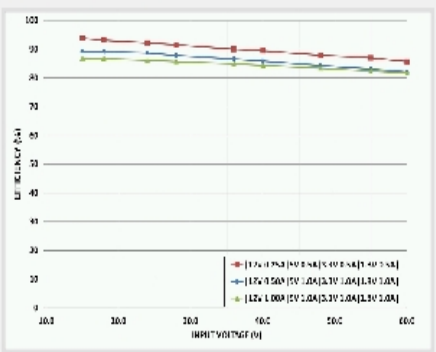
Quickly understand overall system functionality.



Download Schematic

Test Data

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



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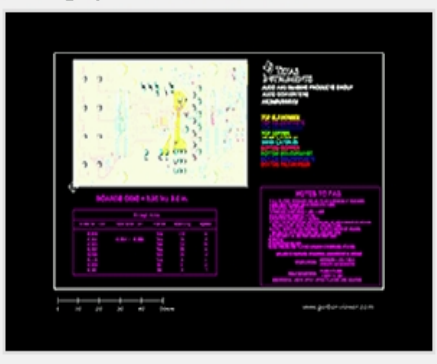
Design Files

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

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
LM46002	SIMPLE SWITCHER® 3.5V to 60V, 2A Synchronous Step-Down Voltage Converter	Converter (Integrated Switch)	Sample & Buy	View Design Kits & Evaluation Modules
LMZ21701	1A SIMPLE SWITCHER® Nano Module with 17V Maximum Input Voltage	Non-Isolated Module	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
LM46002	HTSSOP (PWP) | 16	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
PMP10618 Test Results		PDF	1625	26 Feb 2015	0

Design files (4)

Title	Abstract	Type	Size (KB)	Date	Views
PMP10618 Gerber		ZIP	124	26 Feb 2015	0
PMP10618 BOM		PDF	68	26 Feb 2015	0
PMP10618 Block Diagram		PDF	135	26 Feb 2015	0
PMP10618 Schematic		PDF	107	26 Feb 2015	0

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