36V-72VDC Input Active Clamp Forward With Dual 12V/50W Outputs

(ACTIVE) PMP4028

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Description

This power supply design generates a 12V/100W isolated output from a standard 48V telecom input. An active clamp forward converter is controlled by the UCC2897A. The INA202 and an external PFET are used to provide a current limited 12V/4.5A output derived from the main 12V output of the forward converter. This power supply has a peak efficiency of over 94%.

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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

	PMP4028
Vin (Max) (V)	72
Vin (Min) (V)	36
Vout (Nom) (V)	12
Iout (Max) (A)	4.5
Output Power	54
Isolated/Non-Isolated	Isolated
Input Type	DC
Topology	Forward- Active Clamp Forward- 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
INA202	High-Side Measurement Current-Shunt Monitor with Comparator and Reference	Shunt-based/Non-Isolated	Sample & Buy	Not Available
UCC2897A	Advanced Current-Mode Active Clamp PWM Controller	AC/DC and Isolated DC/DC Power Supply	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
INA202	SOIC (D) | 8	Download	Download
	VSSOP (DGK) | 8	Download	Download
UCC2897A	TSSOP (PW) | 20	Download	Download
	VQFN (RGP) | 20	Download	-

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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
PMP4028 Test Results		PDF	720	04 Jun 2012	27

Design Files (4)

Title	Abstract	Type	Size (KB)	Date	Views
PMP4028 Gerber		ZIP	123	04 Jun 2012	17
PMP4028 PCB		PDF	95	04 Jun 2012	24
PMP4028 BOM		PDF	29	04 Jun 2012	26
PMP4028 Schematic		PDF	98	04 Jun 2012	47

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