Class 3- Mulitple Output, High Efficiency Flyback Converter for PoE Applications

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Evaluation Board: Class 3- Mulitple Output, High Efficiency Flyback Converter for PoE Applications

Description

This converter is used for Class 3 PoE applications where high efficiency and multiple outputs are required. The flyback converter with synchronous rectifier provides excellent efficiency and small size for PoE applications such as IP Phones. The TPS23785B contains both the PoE Powered Device and the PWM controller functions.

Features

- High efficiency (90%)
- Multiple outputs for 10V/0.2A, 5V/1A, 3.3V/1.5A
- Isolated Flyback with synchronous rectifier
- Small size solution
- Uses TPS23785 with PoE interface PD and PWM controller
- This circuit design is full-functional tested and recommended for new designs.

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

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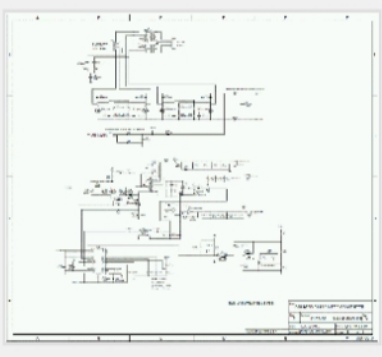
Schematic/Block Diagram

Quickly understand overall system functionality.



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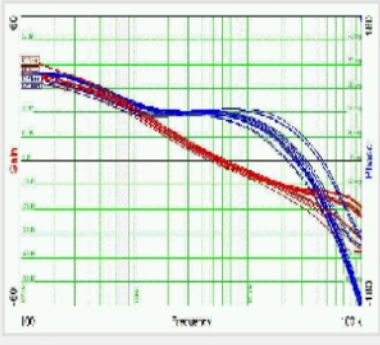

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Design Files

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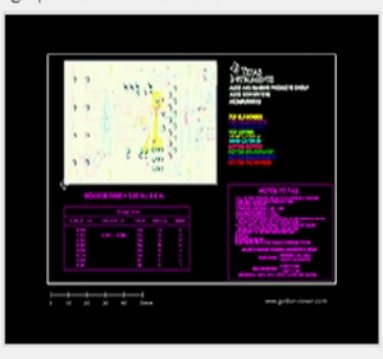

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Bill of Materials (BOM)

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TI Devices (3)

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Part Number	Name	Product Family	Sample & Buy	Design Kits & Evaluation Modules
CSD18533Q5A	60V N-Channel NexFET Power MOSFET	Power MOSFET	Sample & Buy	View Design Kits & Evaluation Modules
TL431A	Adjustable Precision Shunt Regulator	Voltage Reference	Sample & Buy	Not Available
TPS23785B	High-Power, High-Efficiency PoE PD and DC-to-DC Controller	Power Over Ethernet (PoE)/LAN Solutions	Sample & Buy	Not Available

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
TL431A	SOT (DBZ) | 3	Download	Download
	TO-92 (LP) | 3	Download	Download
	SIP (PK) | 3	Download	-
	SOT (DBV) | 5	Download	Download
	SOT (DCK) | 6	Download	Download
	SOIC (D) | 8	Download	Download
	PDIP (P) | 8	Download	Download
	SOP (PS) | 8	Download	-
	TSSOP (PW) | 8	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
PMP8408 Test Results		PDF	1863	18 Jan 2013	41

Design Files (3)

Title	Abstract	Type	Size (KB)	Date	Views
PMP8408 Gerber		ZIP	314	13 May 2014	25
PMP8408 BOM		PDF	140	18 Jan 2013	37
PMP8408 Schematic		PDF	55	18 Jan 2013	62

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