

Small Form Factor Nvidia Tegra™ T40/T50 Processor Power Design for Automotive Infotainment



(ACTIVE) PMP9128

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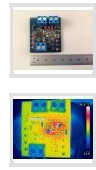
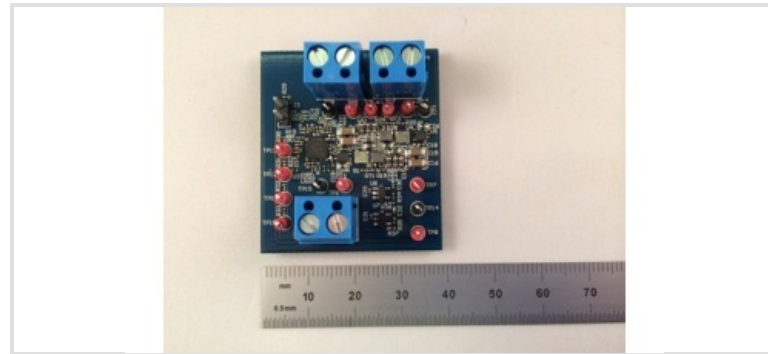
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Description

This Nvidia Tegra™ T40/T50 Processor Power Automotive Infotainment reference design powers the Nvidia Tegra T40/T50 Core Processor using the TPS51632Q1 and TPS51604Q1 Automotive Qualified Devices. It is targeted towards OEM or After-Market Infotainment Designs, including Rear Seat Entertainment.

Features

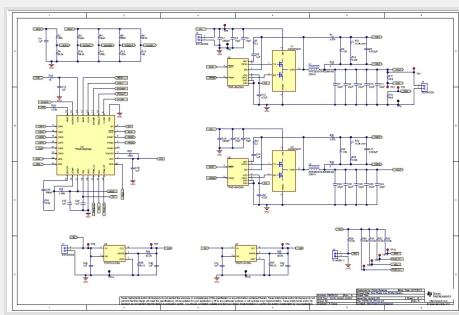
- 234mm² of total power supply area (including input/output caps and inductor)
- Only 10x22uF ceramic output caps to meet load transient requirements
- 6V to 19V input support
- Scalability with phase count optimization
- ~ 87% peak efficiency at 1MHz switching frequency
- Tight Output Voltage Accuracy



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

Schematic/Block Diagram

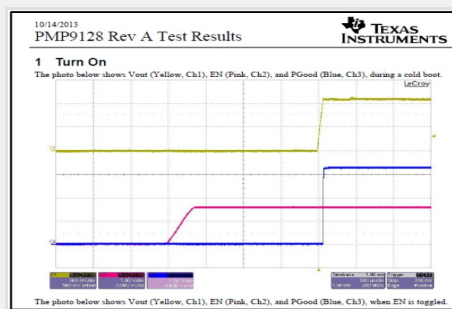
Quickly understand overall system functionality.



Download Schematic

Test Data

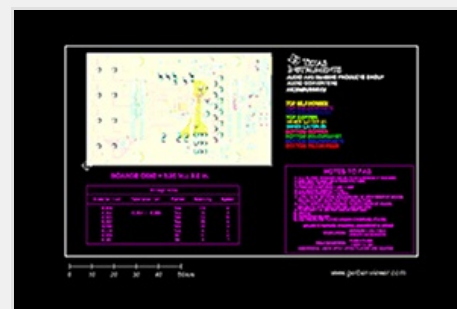
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Design Files

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Bill of Materials (BOM)

Find the complete list of components in this reference design.

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TI Devices (3)

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
CSD87381P	Synchronous Buck NexFET Power Block II	Power MOSFET	Sample & Buy	View Design Kits & Evaluation Modules
TPS51604	Synchronous Buck FET driver for High Frequency CPU Core Power Applications	AC/DC and Isolated DC/DC Power Supply	Sample & Buy	Not Available
TPS51632	2.5V to 24V, 3/2/1-phase Step-Down Driverless Controller for Nvidia Tegra® T40 CPUs with Serial VID	Controller (External Switch)	Sample & Buy	Not Available

Technical Documents

User Guides (1)

Title	Abstract	Type	Size (KB)	Date	Views
PMP9128 Test Results		PDF	2754	26 Jan 2014	485

Design Files (3)

Title	Abstract	Type	Size (KB)	Date	Views
PMP9128 Gerber		ZIP	258	26 Jan 2014	587
PMP9128 BOM		PDF	29	26 Jan 2014	487
PMP9128 Schematic		PDF	119	26 Jan 2014	525

Related Tools & Software

Software (1)

[PMP9128 Design File](#)
(ZIP, 1692 KB) 601 views, 18 Feb 2014

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