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POL Multiphase (3-phase), 120A Power Reference Design

(ACTIVE) TIDA-00324

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Description

TIDA-00324 is a power reference design that highlights the multiphase controller TPS53631 and the Smart Power Stage CSD95372BQ5M in a 12V Vin, 1.2V Vout at 120A application. This reference design can be used to help a user develop a Power Solution for CPU Vcore power or DDR4 power solution to enable faster development and quicker time to market.

Features

- Reference Design for a 12Vin, 1.2Vout, 120A Iout application using a 3-phase controller and Power Stage
- Complete BOM, schematic, and test data available for the reference design
- Design can be leveraged for CPU Vcore, DDR Memory Power, or applications needing a multiphase controller plus Power Stage
- TPS53631 is Intel® VR12.x Platform Serial VID (SVID) Compliant and can operate 1-, 2-, or 3-Phase configuration employing advanced control architecture D-CAP+ with advanced PMBus communication interface for device configurations and system telemetries
- CSD95372BQ5M smart power stage is a highly optimized design for use in a high-power, high-density applications which integrates the driver IC and power MOSFETs to complete the power stage switching function with accurate current sensing and temperature sensing functionality to simplify system design and improve accuracy

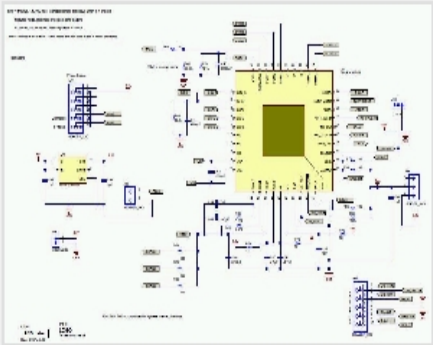


POL Multiphase (3-phase), 120A Power Reference Design

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

Schematic/Block Diagram

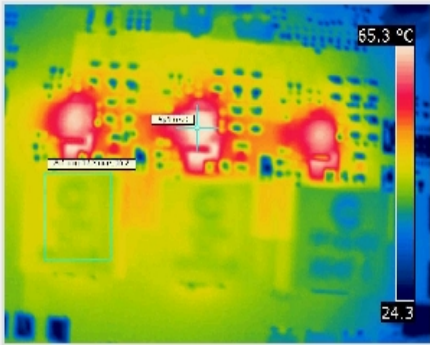
Quickly understand overall system functionality.



Download Schematic

Test Data

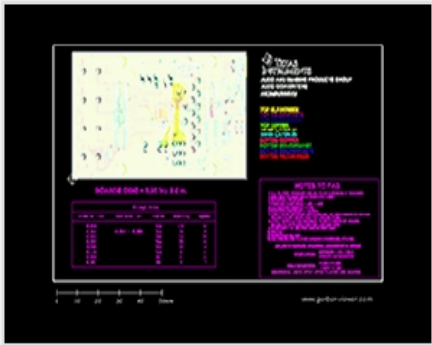
Get results faster with test and simulation data that's been verified.



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Design Files

Download ready-to-use system files to speed your design process. [Get Viewer.](#)



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Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

TI Devices (2)

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Part Number	Name	Product Family	Sample & Buy	Design Kits & Evaluation Modules
CSD95372BQ5M	60A Synchronous Buck NexFET™ Smart Power Stage	Power MOSFET	Sample & Buy	Not Available
TPS53631	3-Phase, D-CAP+™ Step-Down VR12.x Server CPU Vcore	DC/DC Switching Regulator	Sample & Buy	Not Available

Technical Documents

User Guides (1)

Title	Abstract	Type	Size (KB)	Date	Views
TIDA-00324 Test Results		PDF	457	14 Oct 2014	9

Design Files (3)

Title	Abstract	Type	Size (KB)	Date	Views
TIDA-00324 Altium		ZIP	2683	14 Oct 2014	4
TIDA-00324 BOM		PDF	217	14 Oct 2014	3
TIDA-00324 Schematic		PDF	266	14 Oct 2014	13

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