Power Management for C667x DSP AVS Core (CVDD)

(ACTIVE) PMP7256

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Description

This reference design aims to supply the AVS core supply(CVDD) in the Keystone Multicore DSPs, mainly the C66x series. The C66x series uses SmartReflex technology to enable the DSP to control its supply voltage. In order to meet this requirement, this design combines a Synchronous Buck Converter (TPS56121) with the voltage Programmer for POL (LM10010). The LM10010 accepts a 6-bit VCNTL from the DSP and changes the output voltage of the TPS56121 to what the DSP requires.

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Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

Parametrics

	PMP7256
Vin (Min) (V)	4.5
Vin (Max) (V)	14
Vout (Nom) (V)	1
Iout (Max) (A)	15
Output Power	15
Isolated/Non-Isolated	Non-Isolated
Input Type	DC
Topology	Buck- Synchronous

TI Devices (8)

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Part Number	Name	Product Family	Sample & Buy	Design Kits & Evaluation Modules
LM10011	1% Accuracy 4/6-Bit VID Voltage Programmer for Point of Load Regulator w/ Adj Start-Up Current	Power Supply Support	Sample & Buy	View Design Kits & Evaluation Modules
TMS320C6657	Fixed and Floating Point Digital Signal Processor	KeyStone Multicore DSP	Sample & Buy	View Design Kits & Evaluation

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CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
TMS320C6670	FCBGA (CYP)| 841	Download	-
TMS320C6672	FCBGA (CYP)| 841	Download	-
TMS320C6674	FCBGA (CYP)| 841	Download	-
TMS320C6678	FCBGA (CYP)| 841	Download	-
TPS56121	LSON-CLIP (DQP) | 22	Download	-
TPS56221	LSON-CLIP (DQP) | 22	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
PMP7256 Test Results		PDF	938	16 May 2012	56

Design Files (2)

Title	Abstract	Type	Size (KB)	Date	Views
PMP7256 BOM		PDF	66	16 May 2012	73
PMP7256 Schematic		PDF	70	16 May 2012	154

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