Flyback, Buck for Automotive (5V @ 0.5A)

(ACTIVE) PMP1941.4

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Description

A low cost TPS40200 buck converter produces a 5V @ 0.5A output. The input voltage is clamped to 30V max with the addition of a transient voltage-clamping circuit. A dithering circuit creates spread-spectrum operation on the switching frequency to lower EMI, making this circuit suitable for automotive use.

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Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

Parametrics

	PMP1941.4
Vin (Min) (V)	8
Vin (Max) (V)	35
Vout (Nom) (V)	5
Iout (Max) (A)	.5
Output Power	2.5
Isolated/Non-Isolated	Non-Isolated
Input Type	DC
Topology	Buck- Non Sync

TI Devices (11)

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Part Number	Name	Product Family	Sample & Buy	Design Kits & Evaluation Modules
LM158	Dual General-Purpose Operational Amplifier	Operational Amplifier (Op Amp)	Sample & Buy	View Design Kits & Evaluation Modules
LM2904	Dual Operational Amplifier	Operational Amplifier (Op Amp)	Sample & Buy	View Design Kits & Evaluation

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CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
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LM2904	SOIC (D) | 8	Download	Download
	VSSOP (DGK) | 8	Download	Download
	PDIP (P) | 8	Download	Download
	SOP (PS) | 8	Download	-
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TPS3803-01-EP	SOT (DCK) | 5	Download	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
PMP1941 TEST RESULTS		PDF	3079	06 Jan 2011	70

Design Files (2)

Title	Abstract	Type	Size (KB)	Date	Views
PMP1941 BOM		PDF	24	06 Jan 2011	51
PMP1941 SCHEMATIC		PDF	134	06 Jan 2011	105

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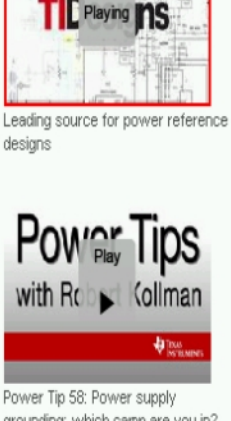

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