Boost LED Driver with 12V AC and driving 6LEDS at 320mA

(ACTIVE) PMP7754

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Description

This design uses a 12Vac input which is rectified and fed to a boost DC to DC Converter with constant current feedback loop for driving 6 series LEDs at 0.32A. Also implemented is a simple circuit to decode a dimming signal from a TRIAC. This dimming decoder circuit controls the dimming level of the LEDs.

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Bill of Materials (BOM)

Find the complete list of components in this reference design.

Download BOM

Parametrics

	PMP7754
Vin (Max) (V)	12
Vin (Min) (V)	12
Vout (Nom) (V)	21
Iout (Max) (A)	.32
Output Power	6.72
Isolated/Non-Isolated	Non-Isolated
Input Type	AC
Topology	Buck- Synchronous

TI Devices (1)

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Part Number	Name	Product Family	Sample & Buy	Design Kits & Evaluation Modules
LM5000	3.1-40V Wide Vin, 2A Current Mode Non-Synchronous Boost Regulator	Converter (Integrated Switch)	Sample & Buy	View Design Kits & Evaluation Modules

CAD/CAE symbols

Part #	Package | Pins	CAD File (.bxl)	STEP Model (.stp)
LM5000	WSON (NHQ) | 16	Download	Download

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Technical Documents

User Guides (1)

Title	Abstract	Type	Size (KB)	Date	Views
PMP7754 Test Results		PDF	158	06 Jan 2012	16

Design Files (3)

Title	Abstract	Type	Size (KB)	Date	Views
PMP7754 Gerber		ZIP	22	08 May 2013	10
PMP7754 BOM		PDF	92	06 Jan 2012	20
PMP7754 Schematic		PDF	179	06 Jan 2012	28

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