# 4-Channel LED Spotlight Driver Reference Design

(ACTIVE) PMP10171

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## Key Document

- PMP10171 Test Results (PDF 832 KB)
  09 Sep 2015 34 views

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PMP10171 4-Channel LED Spotlight Driver Reference Design Board Image

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

## Description

The PMP10171 reference design is a boost LED driver with four outputs. It has an input voltage range of 10 .. 30V and provides 500mA at 40V maximum. A microcontroller provides an adjustable PWM signal for adjusting the brightness of the LEDs.

## Features

- Four Channels
- PWM-Dimming by Microcontroller
- Only Ceramic Capacitors for High Reliability

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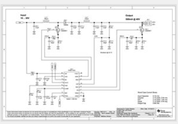
## Schematic/Block Diagram

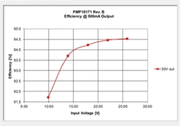
Quickly understand overall system functionality.



Download Schematic

## Design Guide

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

## Parametrics

| | PMP10171 |
|---|---|
| Vin (Min) (V) | 10 |
| Vin (Max) (V) | 30 |
| Vout (Nom) (V) | 40 |
| Iout (Max) (A) | .5 |
| Output Power (W) | 20 |
| Isolated/Non-isolated | Isolated |
| Input Type | DC |
| Topology | Boost- Non Sync |

## TI Devices (5)

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 |
|---|---|---|---|---|
| MSP430G2553 | MSP430G2x53, MSP430G2x13 Mixed Signal Microcontroller | Ultra-low Power | Sample & Buy | View Design Kits & Evaluation Modules |
| SM74611 | Smart Bypass Diode | Power Protection, Distribution, Monitoring | Sample & Buy | Not Available |
| SN74LVC1G17 | Single Schmitt-Trigger Buffer | Logic | Sample & Buy | View Design Kits & Evaluation Modules |

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## CAD/CAE symbols

| Part # | Package \| Pins | CAD File (.bxl) | STEP Model (.stp) |
|---|---|---|---|
| MSP430G2553 | TSSOP (PW) \| 20 | Download | Download |
| | TSSOP (PW) \| 28 | Download | Download |
| | VQFN (RHB) \| 32 | Download | - |
| SN74LVC1G17 | DSBGA (YZT) \| 4 | Download | - |
| | DSBGA (YZV) \| 4 | Download | - |
| | SOT (DBV) \| 5 | Download | Download |
| | SOT (DCK) \| 5 | Download | Download |
| | SOT (DRL) \| 5 | Download | Download |
| | USON (DRY) \| 6 | Download | - |
| | X2SON (DSF) \| 6 | Download | - |

Texas Instruments and Accelerated Designs Inc. have collaborated together to provide TI customers with schematic symbols and PCB layout footprints for TI products.

**Step 1:** Download and install the Ultra Librarian software ZIP: 62MB

**Step 2:** Download the Symbol and Footprint .bxl file.

- read more -

## Technical Documents

### User guides (1)

| Title | Abstract | Type | Size (KB) | Date | Views | TI Recommends |
|---|---|---|---|---|---|---|
| PMP10171 Test Results | | PDF | 832 | 09 Sep 2015 | 34 | ✓ |

### Design files (6)

| Title | Abstract | Type | Size (KB) | Date | Views |
|---|---|---|---|---|---|
| PMP10171 Gerber | | ZIP | 56 | 09 Sep 2015 | 12 |
| PMP10171 Altium | | ZIP | 156 | 09 Sep 2015 | 24 |
| PMP10171 PCB | | PDF | 461 | 09 Sep 2015 | 10 |
| PMP10171 Assembly Drawing | | PDF | 428 | 09 Sep 2015 | 9 |
| PMP10171 BOM | | PDF | 23 | 09 Sep 2015 | 23 |
| PMP10171 Schematic | | PDF | 560 | 09 Sep 2015 | 79 |

## Related Tools & Software

### Software (1)

PMP10171 Firmware
(ZIP, 128 KB) 09 Sep 2015

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