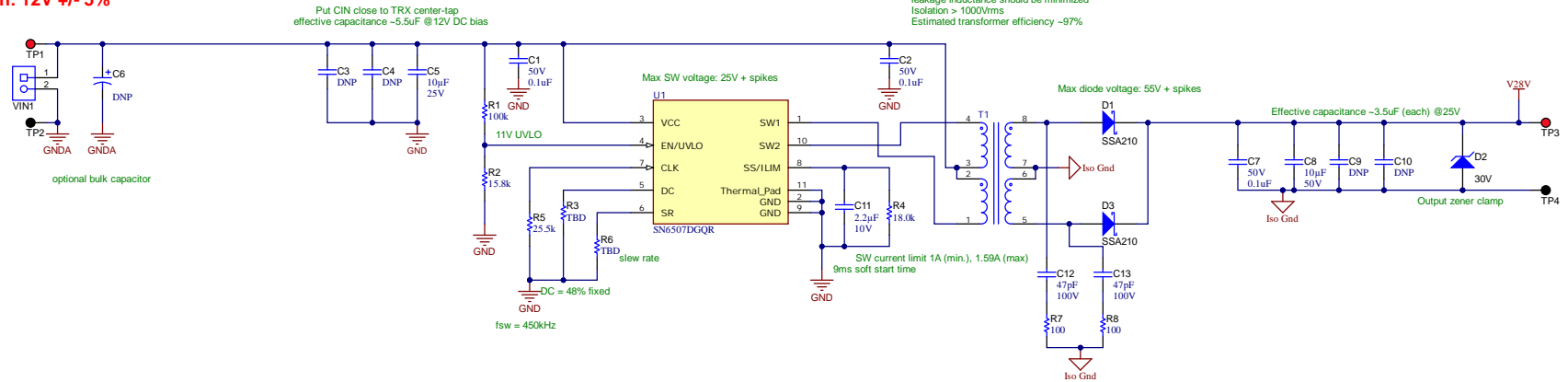


Revision History				
Rev	ECN #	Approved Date	Approved by	Notes
N/A	N/A	N/A	N/A	N/A

NOTES:

- Output capacitors have to be optimized in the lab according to ripple, transient and stability requirements
- Snubber circuit needs to be optimized in the lab
- Output accuracy estimation across operating conditions (+/- 25%)
- This design has not been built or verified in the lab

Vin: 12V +/- 5%

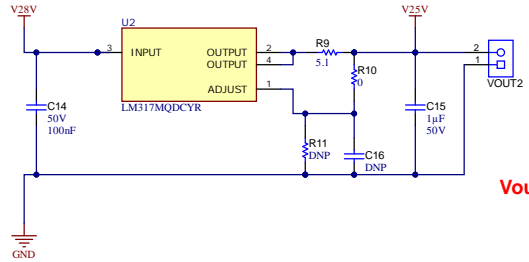


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Orderable:	Designed for: NDA	Mod. Date: 2/26/2024
TID #: N/A	Project Title: Isolated constant current 250 mA	
Number: PMP31319	Rev: RevA	Sheet Title:
SVN Rev: Not in version control	Assembly Variant: [No Variations]	Sheet: 1 of 2
Drawn By:	File: PMP31319_revA_SchDoc	Size: B
Engineer:	Contact: http://www.ti.com/support	

TEXAS INSTRUMENTS
<http://www.ti.com>
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Iout equals Vref / R9, with VREF=1.25 V
LDO provide constant current until Vin-Vout > 1.5 V (based on simulation)



Vout: 25V @ 0.25A

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Drawn By:	File: PMP31319_revA_BlankSheet_SchDoc	Size: B
Engineer:	Contact: http://www.ti.com/support	http://www.ti.com



1 2 3 4 5 6 7 8

Layer	Name	Material	Thickness	Constant	Board Layer Stack
Top	SuperLay				
1	Top Solder	Solder Resist	0.001	3.5	
1	Top Layer	FR-4	0.061	4.8	
2	Bottom Layer	FR-4	0.061	4.8	
	Bottom Solder	Solder Resist	0.001	3.5	
	Bottom Overlay				

202 © Dallas based in 48 states and other 4th world. This shall be 8 pt firm. This shall be per the Label Table in the RF elements.
 203 These dimensions are for reference only. Do not manufacture this board.
 204 These dimensions are to show you how this file will be used. Use of no clear flux is not acceptable.
 205 These dimensions are to show you how this file will be used. Use of no clear flux is not acceptable.

For reference only, not for manufacture.

This document can handle board shapes up to about 25 x 100in.

To re-size the board shape, do the following:
 Select lines on the Board Outline and click on single layer mode...hit+no
 Draw a rectangle using lines (create will be for a x b board)
 Enter Place Line mode (keyboard a)
 keyboard j to jump to origin, hit enter
 keyboard j to jump to location, set x to 6000, hit enter twice
 keyboard j to jump to location, set x to 6000 and y to 4000, hit enter twice
 keyboard j to jump to location, set x to 0 and y to 4000, hit enter twice
 keyboard j to jump to origin, hit enter
 Hit ESC twice to exit place line mode
 Select lines on the Board Outline
 Menu: Design>Board Shape>Define from Selected Objects (keyboard dsd)

If you re-size the board, don't forget to save the drill table strings on the drill Drawing Layer...they should be just to the right of your board shape

COMPONENTS MARKED 'OMP' SHOULD NOT BE USED IN THIS BOARD	ASSEMBLY VARIANTS (No Variations)	DATE/TIME	USER
1000.0001		2008/04/10 10:11:30	YJL

PCB FILE: P:\Projects\2008\20080410\20080410_01\20080410_01_PCB.DWG
 LAYER VIEW: 1
 PLOT FILE: P:\Projects\2008\20080410\20080410_01\20080410_01_PLOT.DWG

DESIGN INFORMATION

MIN. TRACK WIDTH: 8 MIL
 MIN. CLEARANCE: 8/32 MIL
 MIN. VIA PAD DIA: 24 MIL
 MINIMUM ANGLE FOR EXTERNAL: EXTERNAL
 PER PC-D-276 CLASS 2 LEVEL C
 RESISTOR TOLERANCE: 1%
 HOLE SIZE TOLERANCE (CALIBRATED SPECIES): +/- 0.001 MIL

NOTES:
 FR-4 FR-4 High Tg OTHER
 THICKNESS: AS SHOWN NO DRILL FILES
 TOLERANCE: AS PC-6013 TYPE 3 CLASS 2 OTHER +/-
 BOARD & THICK: AS PC-6013 TYPE 3 CLASS 2 OTHER +/-
 DRILLING: AS SHOWN NO DRILL FILES
 FINISH: 20-30 um OTHER

BOARD FINISH:
 SOLDERFINISH: TOP BOTTOM
 SOLDERFINISH COLOR: WHITE OTHER
 SOLDER RESIST COLOR: GREEN OTHER
 MATE SEMI-GLOSS

SURFACE FINISH: AMERSON GOLD ENDED ENDP
 HAS NICKEL OR GOLD OTHER

APPROXIMATE: CUT AND TRIM PER THE BOARD OUTLINE
 NO ROUTE NO SCORE
 TO MEET OR EXCEED THE REQUIREMENTS OF
 HAS OTHER PER ORDER

ALL BOARDS MUST MEET OR EXCEED LEAD-TO-LEAD REQUIREMENTS
 PCB MUST BEAR THE LEAD-TO-LEAD REGISTERED MATERIAL D NUMBER

ADDITIONAL REQUIREMENTS:
 MICROSECTION: YES
 NONE REQUIRED PER ORDER
 NO MIL HAS REQUIRE CONDUCTIVE FILL AND PLUNGER
 YES MIL HAS REQUIRE CONDUCTIVE FILL AND PLUNGER
 LAYER 2 & 3 BUILT LAYERS TO MIL SPEC OR MIL SPACE
 TRACES REQUIRE 100 MIL DIFFERENTIAL LENGTHS

TEXAS INSTRUMENTS

PCB FILE: P:\Projects\2008\20080410\20080410_01\20080410_01_PCB.DWG
 LAYER VIEW: 1
 PLOT FILE: P:\Projects\2008\20080410\20080410_01\20080410_01_PLOT.DWG

DESIGNER: S. Panahy, D. Libardi
 DATE: 2008.11.10

These dimensions (D) under the dimensions do not warrant the accuracy or completeness of this specification or any information contained therein. To ensure the dimensions do not warrant that this design will meet the specifications, will be suitable for your application or fit for any particular purpose, or will serve as an implementation. To ensure the dimensions do not warrant that the design is production worthy. You should consider, evaluate and test your design implementation to ensure the system functionality for your application.

1 2 3 4 5 6 7 8

Comment	Description	Designator	Footprint	LibRef	Quantity
CGA2B3X7R1H104M050BB	CAP, CERM, 0.1 uF, 50 V, +/- 20%, X7R, AEC-Q200 Grade 1, 0402	C1, C2, C7	0402	CMP-0006326-2	3
CGA5L1X7R1E106K160AE	CAP, CERM, 10 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	C3, C4, C5	1206_190	CMP-0085253-1	3
EEHZC1H680P	CAP, Polymer Hybrid, 68 uF, 50 V, +/- 20%, 30 ohm, 8x10 SMD	C6	SM_RADIAL_8MM	CMP-0012599-3	1
CGA5L1X7R1H106K160AE	CAP, CERM, 10 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	C8, C9, C10	1206	CMP-0860898-1	3
GRM188R71A225KE15J	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	C11	0603	CMP-0084284-1	1
C0603C470J1GACAUT0	CAP, CERM, 47 pF, 100 V, +/- 5%, COG/NPO, AEC-Q200 Grade 1, 0603	C12, C13	0603	CMP-0085572-1	2
06035C104K4Z4A	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 0, 0603	C14, C16	0603	CMP-0084736-1	2
08055C105K4Z2A	CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	C15	0805_HV	CMP-0083705-1	1
SSA210	Diode, Schottky, 100 V, 2 A, AEC-Q101, SMA	D1, D3	SMA	CMP-0028811-2	2
MMSZ4713-HE3-08	Diode, Zener, 30 V, 500 mW, AEC-Q101, SOD-123	D2	SOD-123	CMP-0077586-3	1
RMCF0402FT100K	RES, 100 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	R1	0402	CMP-0026753-1	1
CRCW040215K8FKED	RES, 15.8 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	R2, R3, R6	0402	CMP-0026029-3	3
CRCW040218K0FKED	RES, 18.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	R4	0402	CMP-0026058-3	1
CRCW040225K5FKED	RES, 25.5 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	R5	0402	CMP-0026201-2	1
ERJ-3EKF1000V	RES, 100, 1%, 0.1 W, AEC-Q200 Grade 0, 0603	R7, R8	0603	CMP-0022679-3	2
CRCW20105R10JNEF	RES, 5.1, 5%, 0.75 W, AEC-Q200 Grade 0, 2010	R9	2010	CMP-0016161-3	1
RCS06030000Z0EA	RES, 0, 0%, 0.25 W, AEC-Q200 Grade 0, 0603	R10, R11	0603	CMP-0081973-1	2
	Push-Pull Transformers for Texas Instruments SN6507 Push Pull Driver	T1	FP-TX1-ZB1459-BED_SMT8_8MM1_1OMM0-MFG	CMP-0095871-1	1
5010	Test Point, Multipurpose, Red, TH	TP1, TP3	Keystone5010	CMP-0055147-1	2
5011	Test Point, Multipurpose, Black, TH	TP2, TP4	Keystone5011	CMP-0055148-1	2
SN6507DGQR	Low-Emission 36V Push-Pull Transformer Driver with Duty Cycle Control for Isolated Power Supplies	U1	DGQ0010D-C01-MFG	CMP-0095407-1	1
LM317MQDCYR	IC REG LIN POS ADJ 500MA SOT223	U2	DCY0004A-MFG	CMP-0097730-1	1
ED120/2DS	Terminal Block, 5.08 mm, 2x1, Brass, TH	VIN1, VOUT2	On-Shore_ED120_2DS	CMP-0074910-1	2