

LM2717 Evaluation Board

National Semiconductor
Application Note 1371
Clinton Jensen
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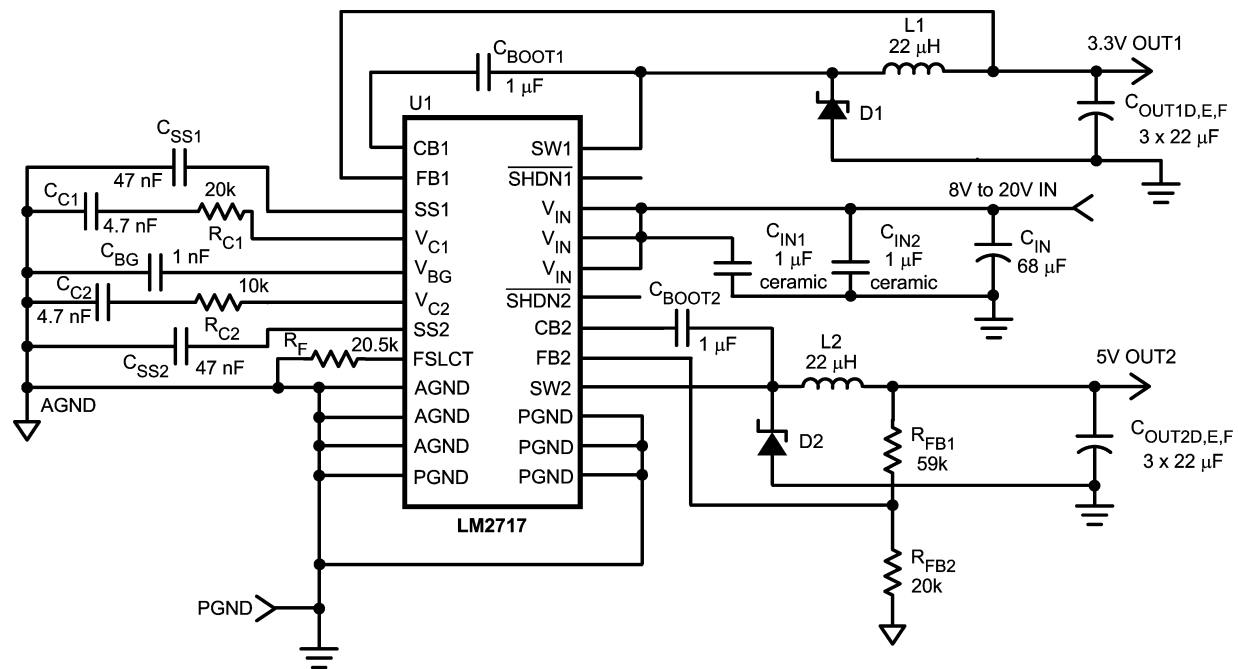


Introduction

The LM2717 is composed of two high current PWM DC/DC buck converters. The first buck (step-down) converter provides a fixed 3.3V output at up to 1.5A. The second buck converter provides an adjustable output at up to 2A. The LM2717 evaluation board is designed for 3.3V output at up to 1.5A and 5V output up to 2A with an input voltage range of 8V to 20V. The board is ideally set up for converting a

standard 12V rail to 3.3V and 5V found in many applications. The 5V output may be changed to fit other applications as desired. The LM2717 is also ideal for TFT applications with high input voltages. It can convert an 18V to 20V source to 3.3V for the control circuitry and 8V to 15V for the panel bias voltage. The schematic, layout, and bill of materials used follows:

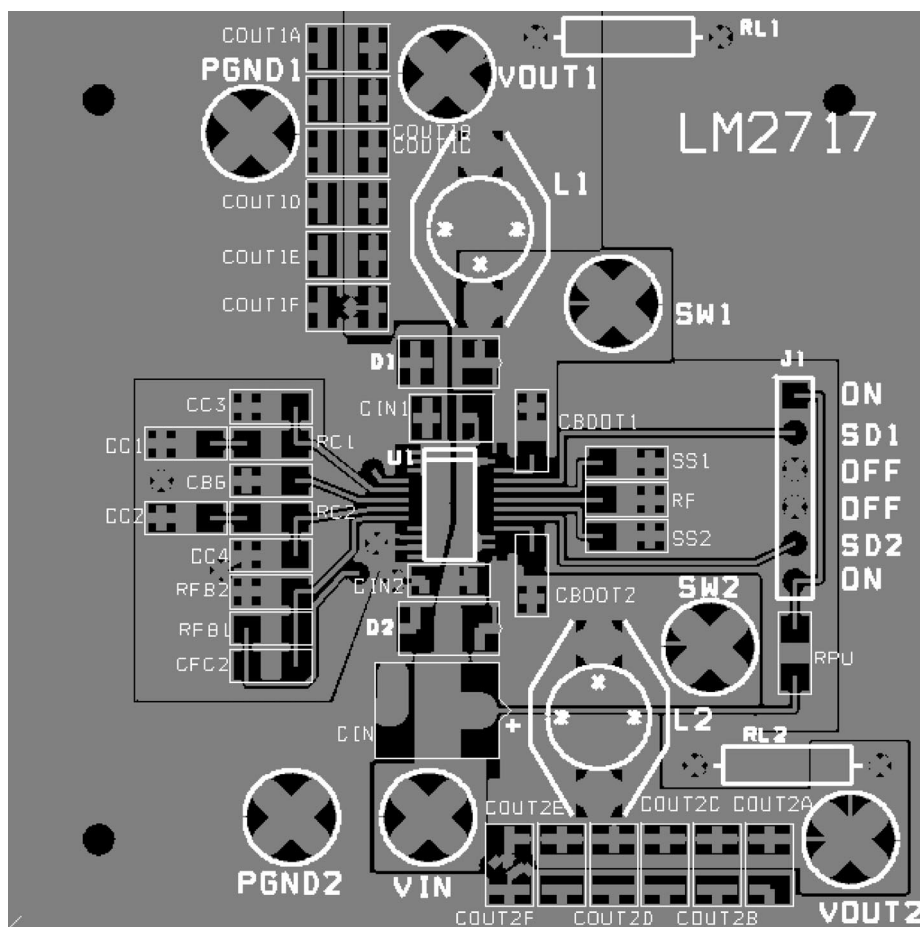
Schematic and Layout



Schematic

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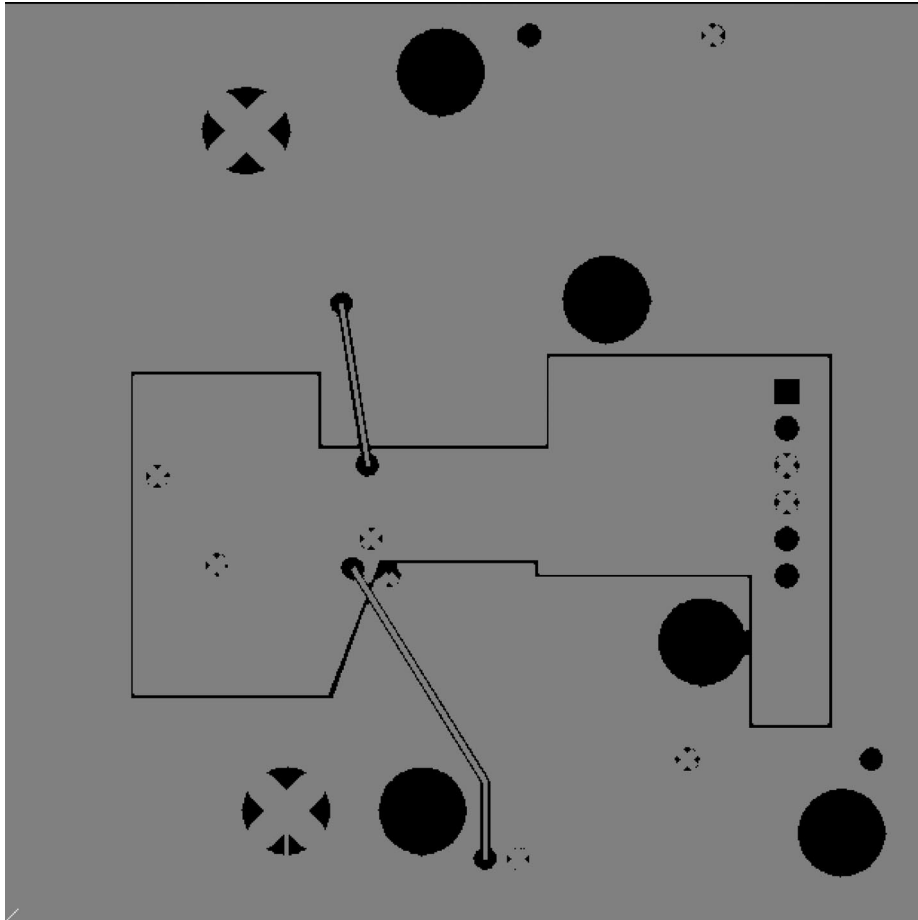
Schematic and Layout (Continued)



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Layout, Top Layer

Schematic and Layout (Continued)



Layout, Bottom Layer

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Bill of Materials

Designator	Component	Manufacturer
U1	LM2717MT, TSSOP-24	National Semiconductor
L1, L2	22 μ H, DO3316P-223	Coilcraft
C _{IN}	68 μ F, 20V Tantalum, 595D686X9025R	Vishay
C _{IN1} , C _{IN2} , C _{BOOT1} , C _{BOOT2}	1 μ F, Ceramic, LMK316BJ105ML	Taiyo Yuden
C _{OUT1D} , C _{OUT1E} , C _{OUT1F} , C _{OUT2D} , C _{OUT2E} , C _{OUT2F}	22 μ F, 6.3V Ceramic, LMK325BJ226MM	Taiyo Yuden
D1, D2	2A, 40V Schottky, MBRS240LT	On Semiconductor
C _{C1} , C _{C2}	4.7 nF, 1206 Case, VJ1206A472KXAA	Vishay
C _{BG}	1 nF, 1206 Case, VJ1206A102KXAA	Vishay
C _{C3} , C _{C4}	Open	
C _{SS1} , C _{SS2}	Open	
R _{C1} , R _{FB2}	20k, 1206 Case, CRCW12062002F	Vishay
R _{C2}	10k, 1206 Case, CRCW12061002F	Vishay
R _F	20.5k, 1206 Case, CRCW12062052F	Vishay
RPU	100k, 1206 Case, CRCW12061003F	Vishay
R _{FB1}	59k, 1206 Case, CRCW12065902F	Vishay
Test Posts (7)	160-2141-02-01-00	Cambion

Notes

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