

# LM2717-ADJ Evaluation Board

National Semiconductor  
Application Note 1456  
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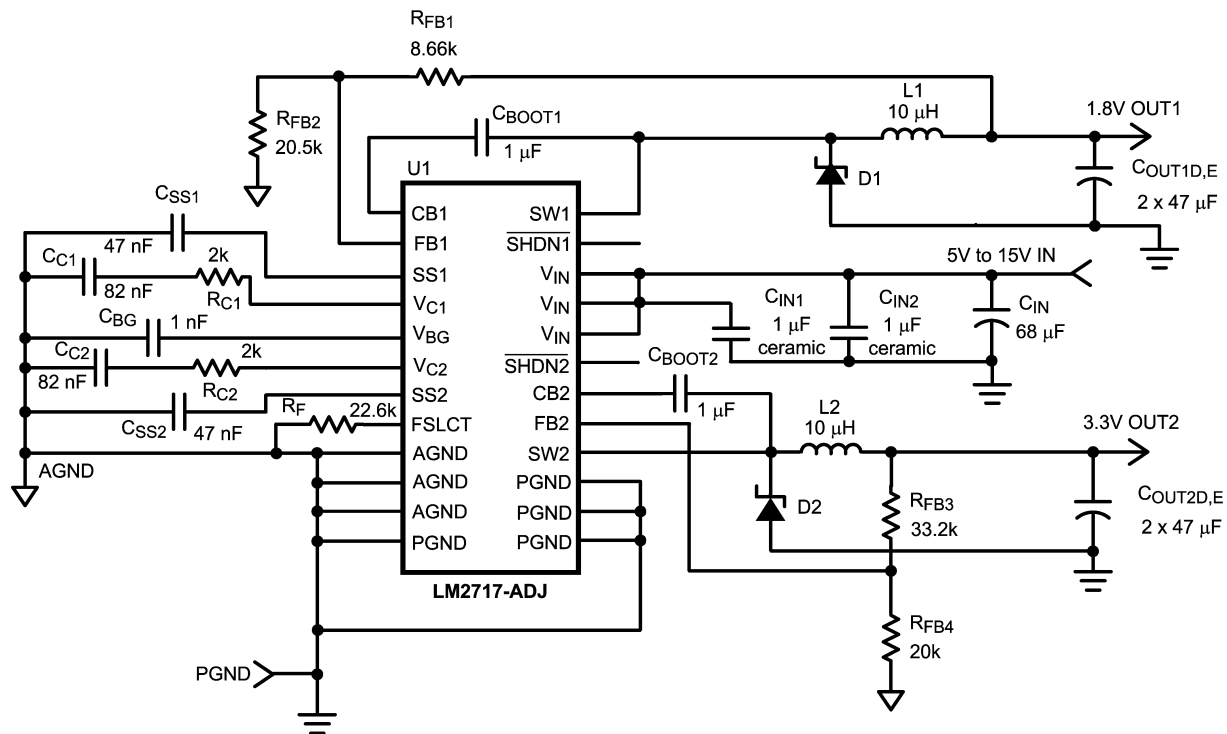
LM2717-ADJ Evaluation Board

## Introduction

The LM2717-ADJ is composed of two high current PWM DC/DC buck converters. The first buck (step-down) converter provides an adjustable output at up to 1.5A while the second buck converter provides an adjustable output at up to 2.5A. The LM2717-ADJ evaluation board is designed for 1.8V output at up to 1.5A and 3.3V output up to 2.4A with an input voltage range of 5V to 15V. The board is ideally set up for converting a standard 12V rail to 1.8V and 3.3V found in many applications. Either output may be changed to fit other

applications as desired. If other output voltages are desired the output capacitors on the evaluation board are rated for 6.3V so outputs up to 5V may be used. For outputs greater than 5V the output capacitors will need to be changed to capacitors with a higher voltage rating. Extra pads are provided for the output capacitors to accommodate a variety of output capacitance and output capacitor ESR requirements for any application. The schematic and bill of materials used follows:

## Schematic and Layout



Schematic

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## Bill of Materials

Designator	Component	Manufacturer
U1	LM2717MT-ADJ, TSSOP-24	National Semiconductor
L1, L2	10 µH, DO3316P-103	Coilcraft, (800) 322-2645
C <sub>IN</sub>	68 µF, 20V Tantalum, 595D686X9025R	Sprague (Vishay), (407) 324-4140
C <sub>IN1</sub> , C <sub>IN2</sub> , C <sub>BOOT1</sub> , C <sub>BOOT2</sub>	1 µF, Ceramic, LMK316BJ105ML	Taiyo Yuden, (408) 573-4150
C <sub>OUT1D</sub> , C <sub>OUT1E</sub> , C <sub>OUT2D</sub> , C <sub>OUT2E</sub>	47 µF, 6.3V Ceramic, GRM32ER60J476ME20	Murata, www.murata.com
D1, D2	2A, 40V Schottky, MBRS240LT	On Semiconductor
C <sub>C1</sub> , C <sub>C2</sub>	82 nF, 1206 Case, VJ1206A823KXAA	Vitramon (Vishay), (203) 268-6261
C <sub>BG</sub>	1 nF, 1206 Case, VJ1206A102KXAA	Vitramon (Vishay), (203) 268-6261
C <sub>C3</sub> , C <sub>C4</sub>	Open	

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**Bill of Materials** (Continued)

Designator	Component	Manufacturer
C <sub>SS1</sub> , C <sub>SS2</sub>	47 nF, 1206 Case, VJ1206A473KXAA	Vitramon (Vishay), (203) 268-6261
R <sub>FB3</sub>	33.2k, 1206 Case, CRCW12063322F	Dale (Vishay), (402) 564-3131
R <sub>FB4</sub>	20k, 1206 Case, CRCW12062002F	Dale (Vishay), (402) 564-3131
R <sub>C1</sub> , R <sub>C2</sub>	2k, 1206 Case, CRCW12062001F	Dale (Vishay), (402) 564-3131
R <sub>F</sub>	22.6k, 1206 Case, CRCW12062262F	Dale (Vishay), (402) 564-3131
RPU	100k, 1206 Case, CRCW12061003F	Dale (Vishay), (402) 564-3131
R <sub>FB1</sub>	8.66k, 1206 Case, CRCW12068661F	Dale (Vishay), (402) 564-3131
R <sub>FB2</sub>	20.5k, 1206 Case, CRCW12062052F	Dale (Vishay), (402) 564-3131
Test Posts (7)	160-2141-02-01-00	Cambion

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