

LM2717-ADJ Step-Down Converter Evaluation Module User's Guide



ABSTRACT

The LM2717-ADJ is composed of two high current pulse width modulation (PWM) DC/DC buck converters. The first buck (step-down) converter provides an adjustable output at up to 1.5 A while the second buck converter provides an adjustable output at up to 2.5 A. The LM2717-ADJ evaluation board is designed for 1.8-V output at up to 1.5 A and 3.3-V output up to 2.4 A with an input voltage range of 5 V to 15 V. The board is ideally set up for converting a standard 12-V rail to 1.8 V and 3.3 V found in many applications. Either output can be changed to fit other applications as desired. If other output voltages are desired the output capacitors on the evaluation board are rated for 6.3 V so outputs up to 5 V can be used. For outputs greater than 5 V, the output capacitors 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 is shown in [Figure 1-1](#) and the bill of materials (BOM) is discussed in [Table 2-1](#).

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1 Schematic and Layout

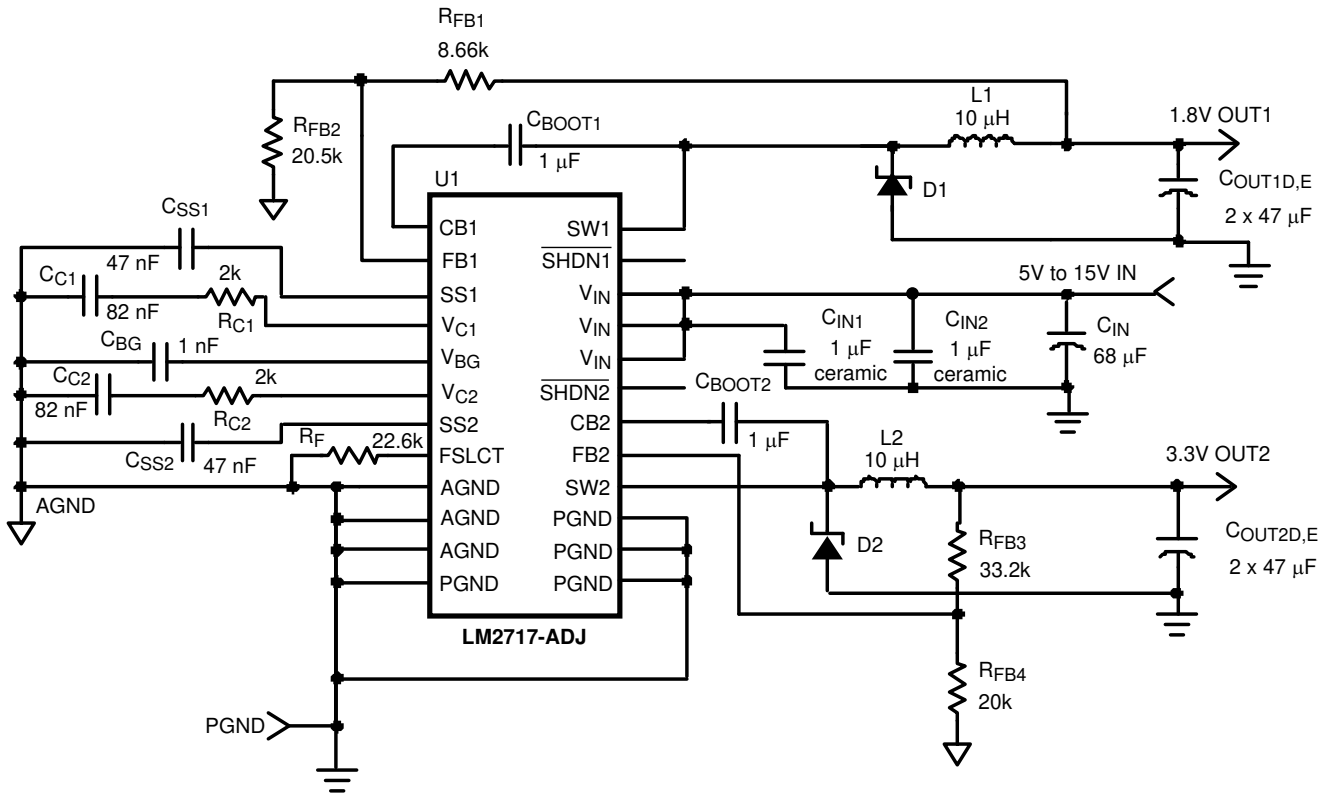


Figure 1-1. Schematic

2 Bill of Materials

Table 2-1. Bill of Materials (BOM)

Designator	Component	Manufacturer
U1	LM2717MT-ADJ, TSSOP-24	Texas Instruments
L1, L2	10 μ H, DO3316P-103	Coilcraft, (800) 322-2645
C _{IN}	68 μ F, 20 V Tantalum, 595D686X9025R	Sprague (Vishay), (407) 324-4140
C _{IN1} , C _{IN2} , C _{BOOT1} , C _{BOOT2}	1 μ F, Ceramic, LMK316BJ105ML	Taiyo Yuden, (408) 573-4150
C _{OUT1D} , C _{OUT1E} , C _{OUT2D} , C _{OUT2E}	47 μ F, 6.3 V Ceramic, GRM32ER60J476ME20	Murata, www.murata.com
D1, D2	2 A, 40 V Schottky, MBRS240LT	On Semiconductor
C _{C1} , C _{C2}	82 nF, 1206 Case, VJ1206A823KXAA	Vitramon (Vishay), (203) 268-6261
C _{BG}	1 nF, 1206 Case, VJ1206A102KXAA	Vitramon (Vishay), (203) 268-6261
C _{C3} , C _{C4}	Open	
C _{SS1} , C _{SS2}	47 nF, 1206 Case, VJ1206A473KXAA	Vitramon (Vishay), (203) 268-6261
R _{FB3}	33.2 k, 1206 Case, CRCW12063322F	Dale (Vishay), (402) 564-3131
R _{FB4}	20 k, 1206 Case, CRCW12062002F	Dale (Vishay), (402) 564-3131
R _{C1} , R _{C2}	2 k, 1206 Case, CRCW12062001F	Dale (Vishay), (402) 564-3131
R _F	22.6 k, 1206 Case, CRCW12062262F	Dale (Vishay), (402) 564-3131
R _{PU}	100 k, 1206 Case, CRCW12061003F	Dale (Vishay), (402) 564-3131
R _{FB1}	8.66 k, 1206 Case, CRCW12068661F	Dale (Vishay), (402) 564-3131
R _{FB2}	20.5 k, 1206 Case, CRCW12062052F	Dale (Vishay), (402) 564-3131
Test Posts (7)	160-2141-02-01-00	Cambion

3 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

Changes from Revision A (April 2013) to Revision B (December 2021)	Page
• Updated the numbering format for tables, figures, and cross-references throughout the document.	1
• Updated the user's guide title.....	1

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