

Development Board EPC9036 Quick Start Guide

EPC2100

Monolithic Half-Bridge with Gate Drive

Revision 1.0



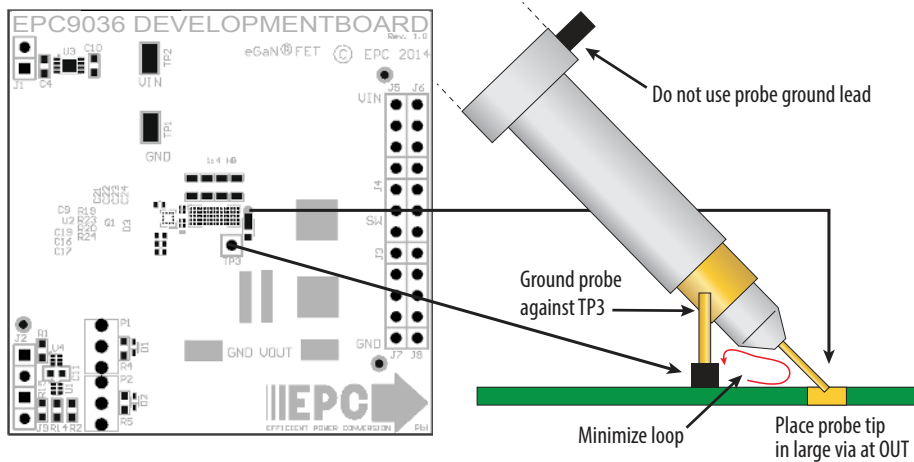


Figure 3: Proper Measurement of Switch Node – OUT

THERMAL CONSIDERATIONS

The EPC9036 development boards showcase the EPC2100 eGaNiC. These development boards are intended for bench evaluation with low ambient temperature and convection cooling. The addition

of heat-sinking and forced air cooling can significantly increase the current rating of these devices, but care must be taken to not exceed the absolute maximum die temperature of 150°C.

NOTE: These development boards do not have any current or thermal protection on board.

Table 2: Bill of Material

Item	Qty	Reference	Part Description	Manufacturer / Part#
1	3	C4, C10, C11,	Capacitor, 1 μ F, 10%, 25 V, X5R	Murata, GRM188R61E105KA12D
2	2	C16, C17	Capacitor, 100 pF, 5%, 50 V, NP0	Kemet, C0402C101K5GACTU
3	2	C9, C19	Capacitor, 0.1 μ F, 10%, 25 V, X5R	TDK, C1005X5R1E104K
4	4	C21, C22, C23, C24	Capacitor - 4.7 μ F, 10%, 50 V, X5R	TDK, C2012X5R1H475K125AB
5	2	D1, D2	Schottky Diode, 30 V	Diodes Inc., SDM03U40-7
6	3	J1, J2, J9	Connector	2 pins of Tyco, 4-103185-0
7	6	J3, J4, J5, J6, J7, J8	Connector	FCI, 68602-224HLF
8	1	Q1	eGaNiC	EPC2100
9	1	R1	Resistor, 10.0 k, 5%, 1/8 W	Stackpole, RMCF0603FT10K0
10	2	R2, R15	Resistor, 0 Ω , 1/8 W	Stackpole, RMCF0603ZTOR00
11	1	R4	Resistor, 47 Ω , 1%, 1/8W	Stackpole, RMCF0603FT47R0
12	1	R5	Resistor, - 22 Ω , 1%, 1/8W	Stackpole, RMCF0603FT22R0
13	4	R19, R20, R23, R24	Resistor, 0 Ω , 1/20 W	Panasonic, ERJ-1GE0R00C
14	2	TP1, TP2	Test Point	Keystone Elect, 5015
15	1	TP3	Connector	1/40th of Tyco, 4-103185-0
16	1	U1	I.C., Logic	Fairchild, NC7SZ00L6X
17	1	U2	I.C., Gate driver	Texas Instruments, LM5113
18	1	U3	I.C., Regulator	Microchip, MCP1703T-5002E/MC
19	1	U4	I.C., Logic	Fairchild, NC7SZ08L6X
20	0	R14	Optional Resistor	
21	0	D3	Optional Diode	
22	0	P1, P2	Optional Potentiometer	

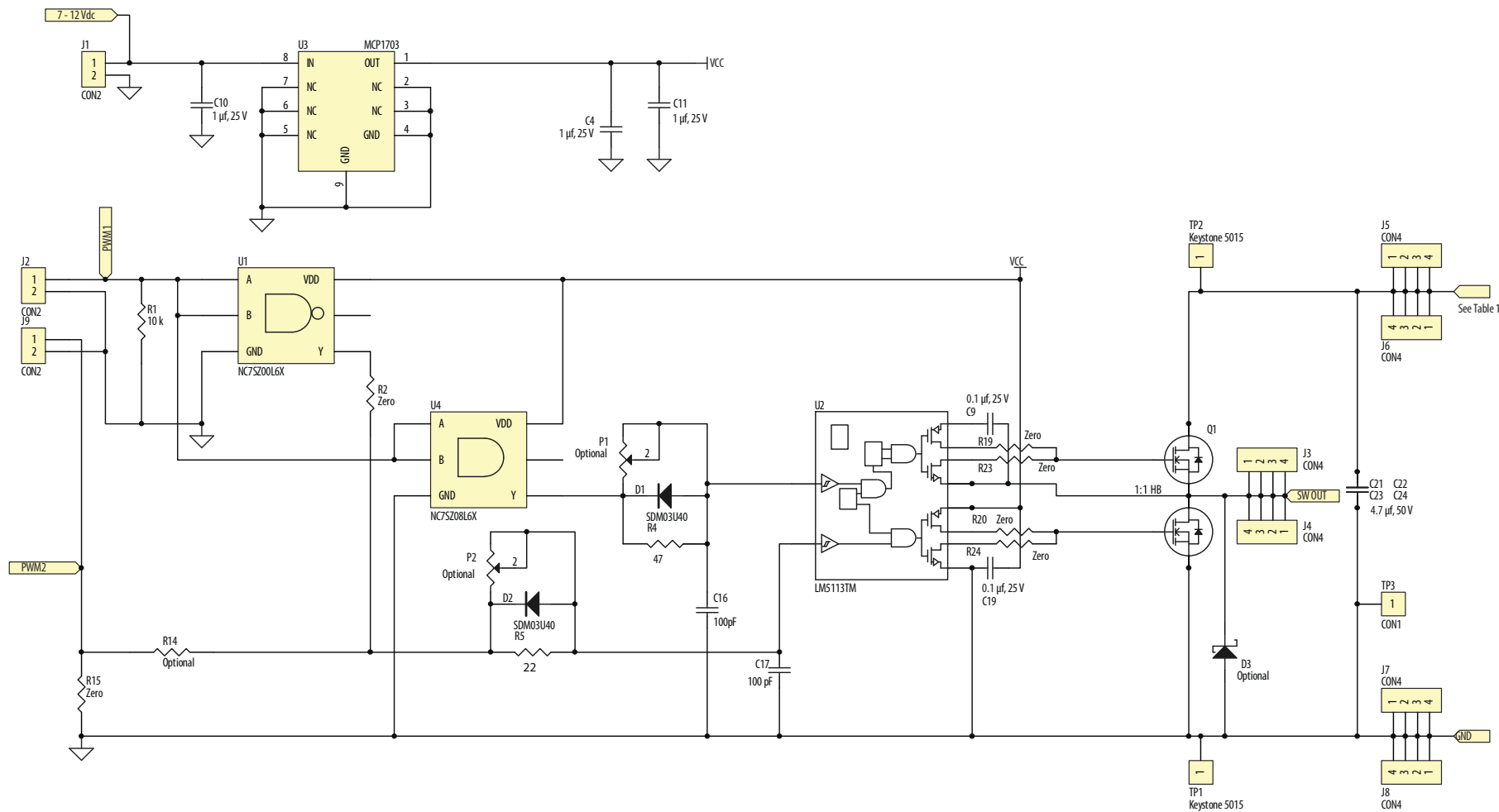


Figure 4: EPC9036 Development Board Schematic

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Demonstration Board Notification

The EPC9036 board is intended for product evaluation purposes only and is not intended for commercial use. Replace components on the Evaluation Board only with those parts shown on the parts list (or Bill of Materials) in the Quick Start Guide. Contact an authorized EPC representative with any questions.

This board is intended to be used by certified professionals, in a lab environment, following proper safety procedures. Use at your own risk.

As an evaluation tool, this board is not designed for compliance with the European Union directive on electromagnetic compatibility or any other such directives or regulations. As board builds are at times subject to product availability, it is possible that boards may contain components or assembly materials that are not RoHS compliant. Efficient Power Conversion Corporation (EPC) makes no guarantee that the purchased board is 100% RoHS compliant.

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