

MUN12AD01-SH EVB Guide

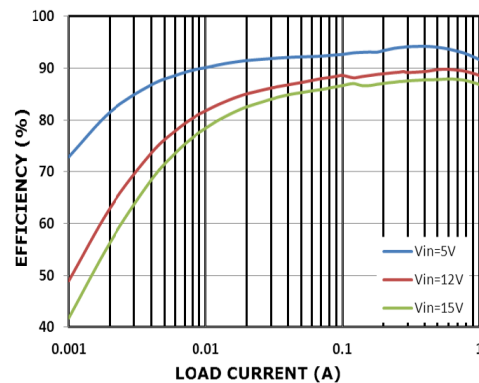
DESCRIPTION:

The evaluation board is for the MUN12AD01-SH, high efficiency DC/DC power module. The evaluation board is generates a +3.3V output voltage at load currents up to 1A from a 4.5V and 17V input voltage. Output setting resistor R5 to R10 can be adjusted for evaluating different output voltage. The MUN12AD01-SH switches at 1.0MHz and achieve up to 94% efficiency with the supplied components.

ELECTRICAL SPECIFICATION:

Parameters	Symbol	Value	Unit
Input Voltage Range	VIN	4.5~17	V
Output Voltage	VOUT	1.0~3.3	V
Output Current	IOUT	1	A

EVALUATION BOARD & EFFICIENCY::



QUICK START:

The output voltage VOUT can be programmed by varying Rx. Calculate the new value using the formula:

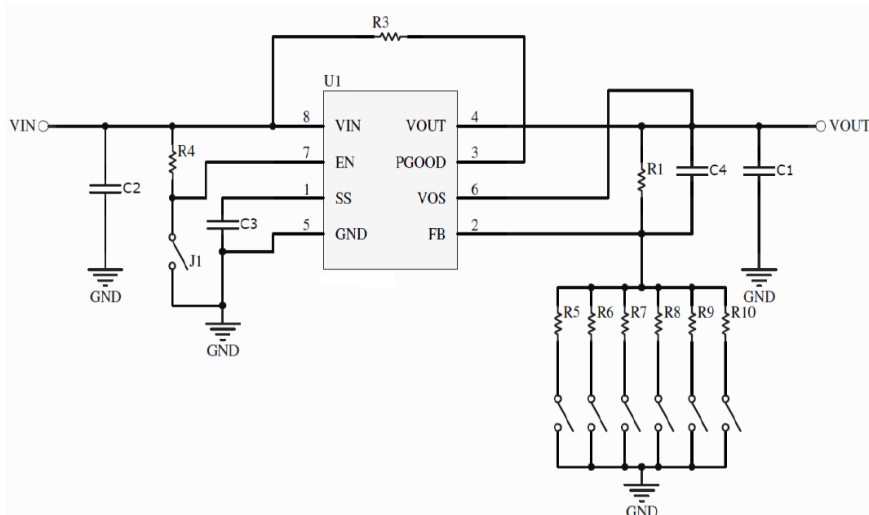
$$VOUT(V) = 0.6 \times \left(1 + \frac{100k}{R_x}\right) \quad (\text{EQ.1})$$

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TABLE 1: OUPUT VOLTAGE SETTING

Vout (V)	Internal Resistor (kΩ)	Rx (kΩ)
1.0	100(1%)	R5: 150(1%)
1.2	100(1%)	R6: 100(1%)
1.5	100(1%)	R7: 66.5(1%)
1.8	100(1%)	R8: 49.9(1%)
2.5	100(1%)	R9: 31.6(1%)
3.3	100(1%)	R10: 22.1(1%)

EVALUATION BOARD SCHEMATIC:

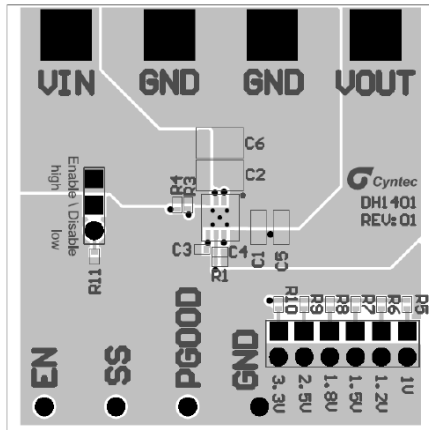


BILL OF MATERIALS:

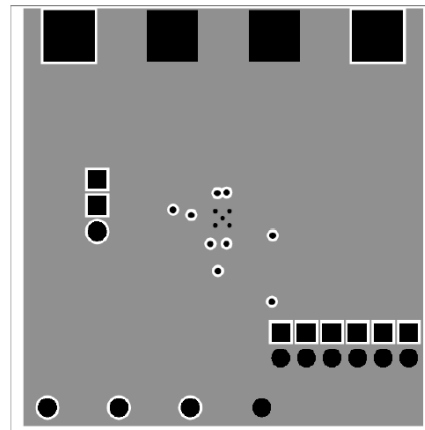
COUNT	REF DES	DESCRIPTION	MFR
1	C1	MLCC,47uF/10V 1206	Murata
1	C2	MLCC,22uF/25V 0805/1206	Murata
0	C3	DXP	
1	C4	MLCC,100pF/10V 0402	Murata
0	R1	DXP	
3	R3,R4,R6	Resistor,100K Ohm,±1%,0402	Cyntec
1	R5	Resistor,150K Ohm,±1%,0402	Cyntec
1	R7	Resistor,66.5k Ohm,±1%,0402	Cyntec
1	R8	Resistor,49.9k Ohm,±1%,0402	Cyntec
1	R9	Resistor,31.6k Ohm,±1%,0402	Cyntec
1	R10	Resistor,22.1k Ohm,±1%,0402	Cyntec

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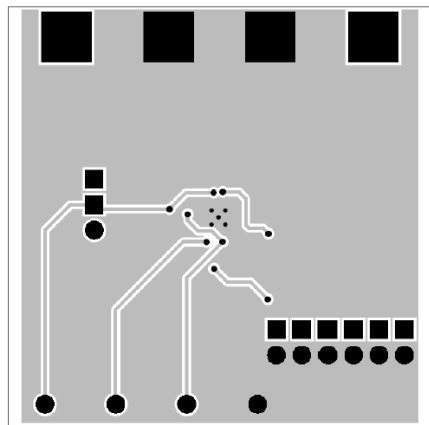
PRINTED CIRCUIT BOARD LAYOUT:



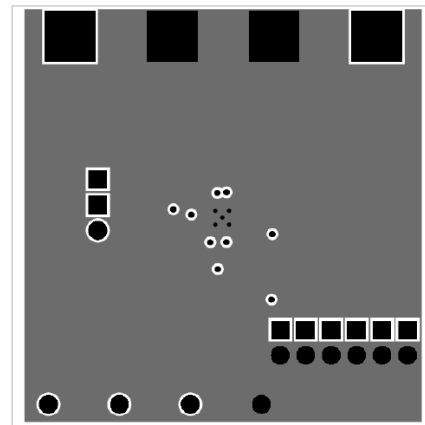
Top Layer



Mid1 Layer



Mid2 Layer



Bottom Layer