

MUN12AD03-SH EVB Guide

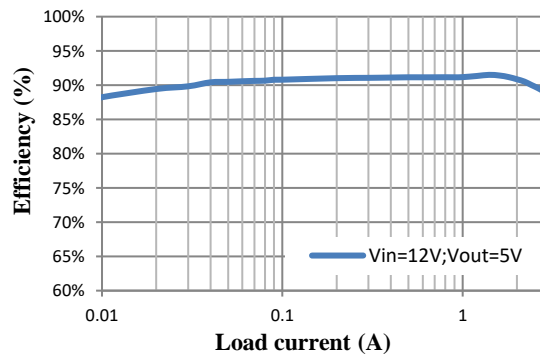
DESCRIPTION:

The evaluation board is for the MUN12AD03-SH, high efficiency DC/DC power module. The evaluation board is generates a +5.0V output voltage at load currents up to 3A. The output voltage can be programmed by the dividing resistor (R_{FB_T} and R_{FB_B}). The MUN12AD03-SH switches at 1MHz and achieve up to 91% efficiency with the supplied components.

ELECTRICAL SPECIFICATION:

Parameters	Symbol	Value	Unit
Input Voltage Range	VIN	4.5~16	V
Output Voltage	VOUT	5.0	V
Output Current	IOUT	3	A

EVALUATION BOARD & EFFICIENCY::



QUICK START:

The module has an internal $0.6V \pm 1.5\%$ reference voltage. The output voltage can be programmed by the dividing resistor (R_{FB_T} and R_{FB_B}). The output voltage can be calculated by Equation 1, resistor choice may be referred to TABLE 1.

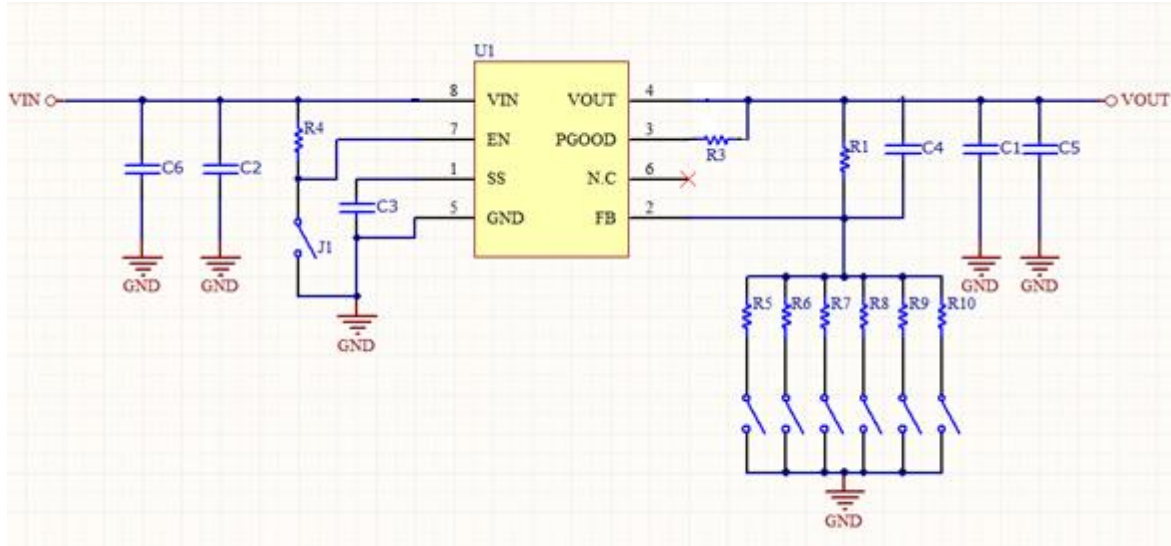
$$VOUT (V) = 0.6 \times \left(1 + \frac{R_{FB_T}}{R_{FB_B}} \right) \quad (EQ.1)$$

TABLE 1 Resistor values for common output voltages

VOUT	1.0V	1.2V	1.8V	2.5V	3.3V	5.0V
R_{FB_T} (Ohm)	100k	100k	100k	100k	100k	100k
R_{FB_B} (Ohm)	150k	100k	49.9k	31.6k	22.1k	13.7k

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EVALUATION BOARD SCHEMATIC:

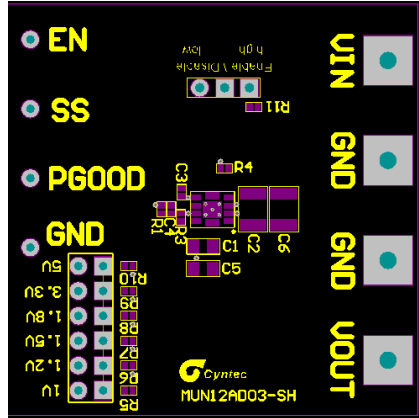


BILL OF MATERIALS:

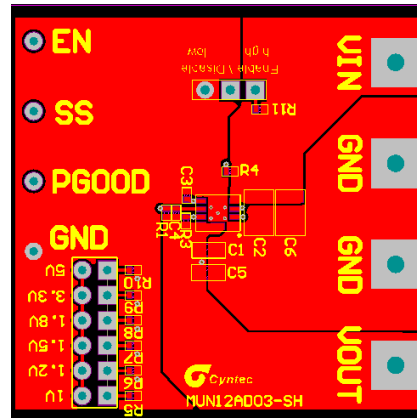
Qty	Ref.	Value	Description	Vendor
2	C2,C6	10uF/16V/X5R/1206	Ceramic Cap	Murata
2	C1,C5	47uF/6.3V/X5R/0805	Ceramic Cap	Murata
4	R1,R3,R4,R6	100k/0402	Chip Resistor	Cyntec
-	C4	DNP		-
-	C3	DNP		-
1	U1	MUN12AD03-SH		Cyntec
1	R5	150k/0402	Chip Resistor	Cyntec
1	R7	49.9k/0402	Chip Resistor	Cyntec
1	R8	31.6k/0402	Chip Resistor	Cyntec
1	R9	22.1k/0402	Chip Resistor	Cyntec
1	R10	13.7k/0402	Chip Resistor	Cyntec

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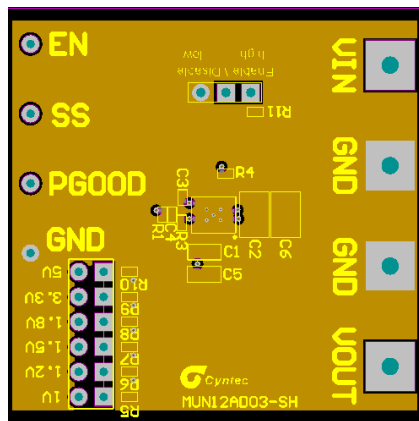
PRINTED CIRCUIT BOARD LAYOUT:



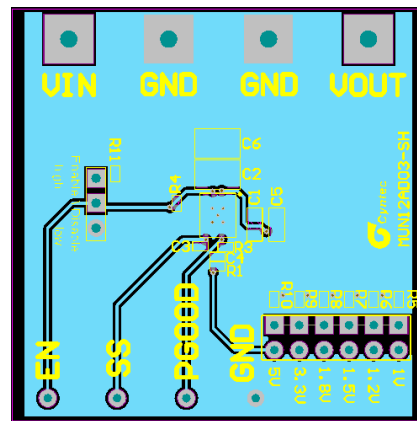
Top Component Side



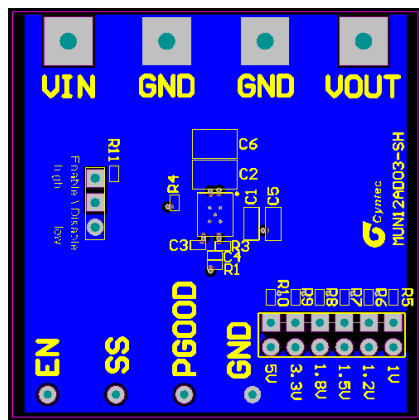
Top Layer



Mid1 Layer



Mid2 Layer



Bottom Layer