

Inverter using an SP34063A

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Part Number: SP34063A

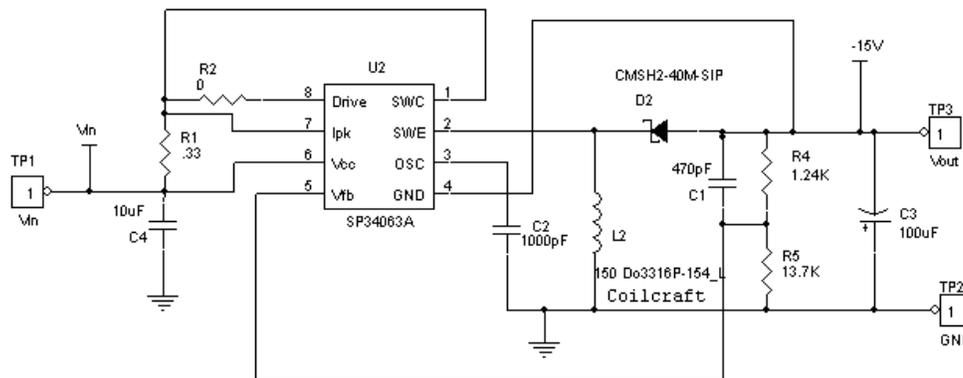
Application Description: -15V_{OUT} 100mA inverter +10V to +14V_{IN}

Electrical Requirements:

Input Voltage	+10 to +14V
Output Voltage	-15V
Output Current	100mA

Circuit Description:

The SP34063A can provide an inexpensive low power solution to convert positive to negative output using standard components. This design solution includes a schematic of the converter as well as test data for the positive to negative buck boost solution and a bill of materials. For more details on operation of a buck boost regulator please refer to ANP 9: ["Using SP6652 for a Positive to Negative Buck Boost Converter"](#).



All resistors are 1% resistors

Figure. 1 Schematic SP34063A Negative Buck Boost Converter

Results for schematic in Figure 1.

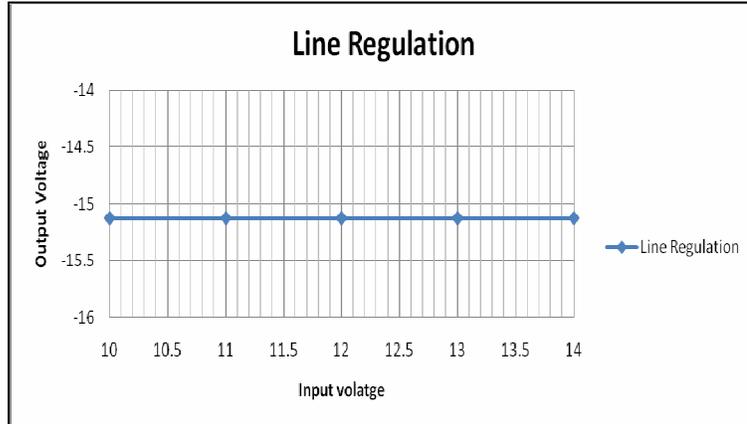


Figure 2 Line regulation

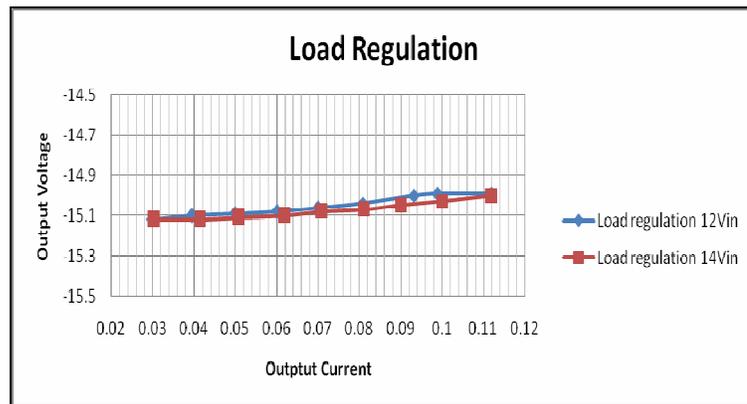


Figure 3 Load Regulation

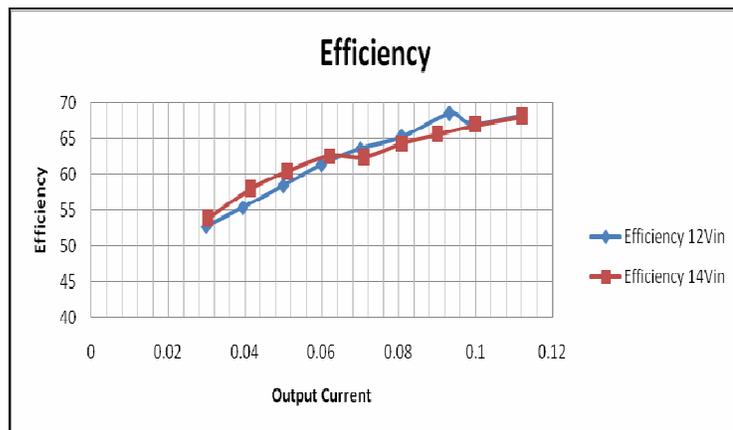


Figure 4 Efficiency

SP34063A Inverter Evaluation Board List of Materials

6/19/2007

Line No.	Ref. Des.	Qty.	Manuf.	Manuf. Part Number	Layout Size	Component	Vendor Phone Number
1	PCB	1	Sipex	146-6624-01	1.5X1.5 inch PCB	SP34063EB	978-667-7800
2	U3	1	Sipex	SP34063A	NSOIC	Buck Regulator	978-667-7800
3	D2	1	Central Semi	CMSH2-40M-SIP	SMA	Schottky Diode	1-631-435-1110
4	R1	1	Vishay	CRCW0805R330JMTA	0805	.33 Sense resistor	1-402-563-6866
5	R2	1	Vishay	CRCW6030000Z0EA	0603	0 ohm Resistor	1-402-563-6866
6	R4	1			0805	3.8K Resistor 1%	
7	R5	1			0805	13.7K Resistor 1%	
8	C3	1	Sanyo-Oscon	94SA107X0020FBP	Oscon	100 uF 20V Low ESR Capacitor	
9	C4	1	Murata	GRM32DR61E106K	1210	10uF 25V Ceramic Capacitor	1-770-436-1300
10	C2	1	Murata	GRM1885C1H102J	603	1000pF Ceramic Capacitor	1-770-436-1300
11	C1	1	Murata	GRM1885C1H471J	0603	470pf Ceramic Capacitor	1-770-436-1300
12	L2	1	Coilcraft	DO3316P-154_L	.510x.370	150uH inductor	847-639-6400

For further assistance:

Email:

WWW Support page:

Sipex Application Notes:

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<http://www.sipex.com/content.aspx?p=support>

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