

PMP7759

PMP7759 Test Results



Literature Number:SNVU011

Buck Boost Converter

TI reference design number: PMP 7759

(Formerly National Semiconductor design NSC1030)

Input: 6V to 33V

Output: 16.7V @1.75A

DC-DC Test Results

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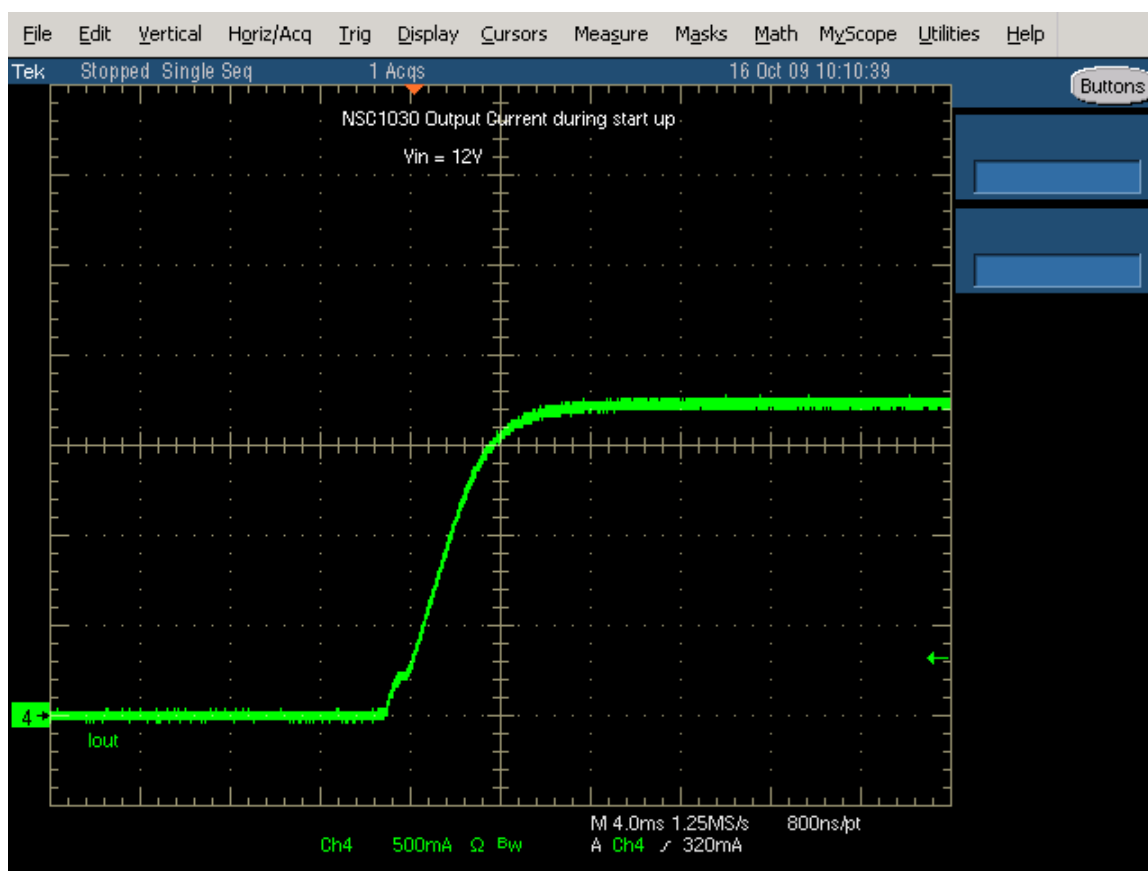
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1.0 Circuit Description

It is a Buck Boost configuration where input ranges from 6V to 33V DC. The output has 5 LEDs in the string producing 16.7V in the output. It uses NTC for thermal shutdown thereby protecting the circuit in case of high temperature issues. It can be used in Indoor and Outdoor area SSL, Automotive, General illumination etc.

2.0 Waveforms

2.1 Output Current during startup for $V_{in} = 12V$



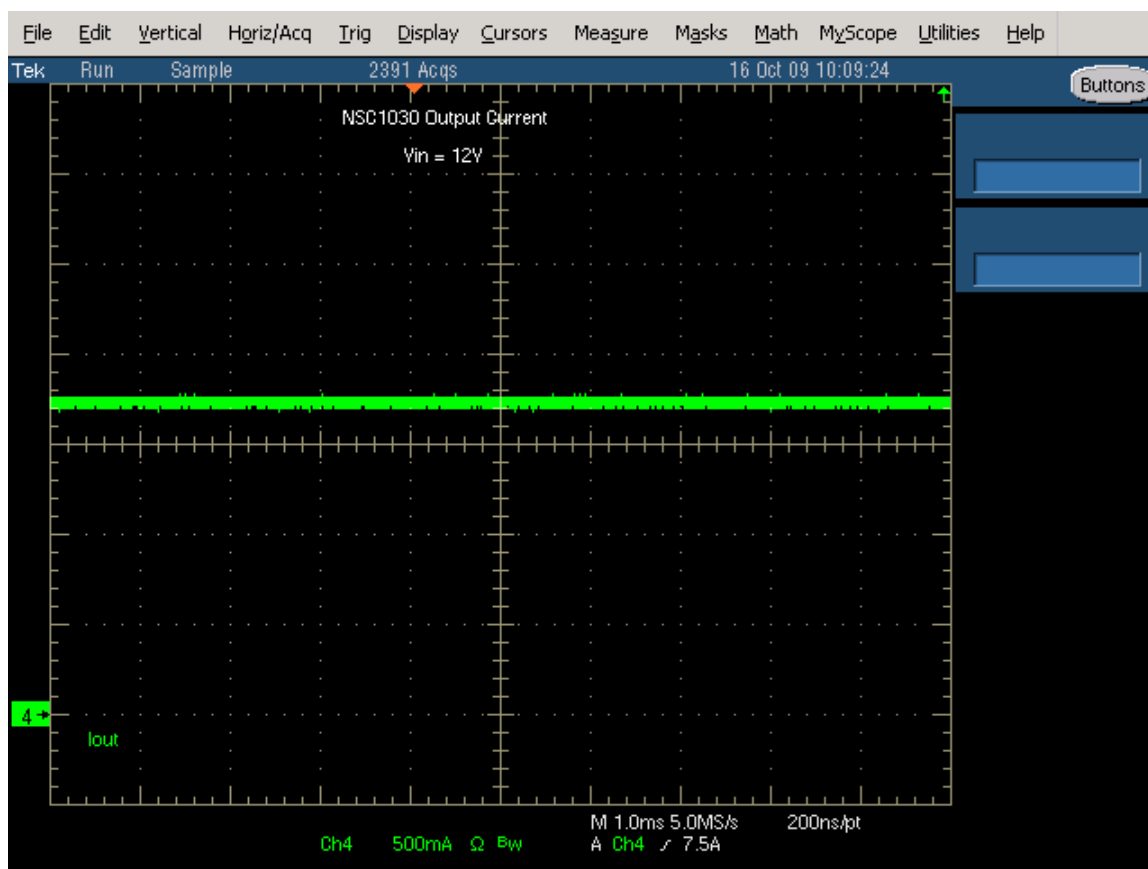
■ Output current

2.2 Output Current during startup for $V_{in} = 24V$



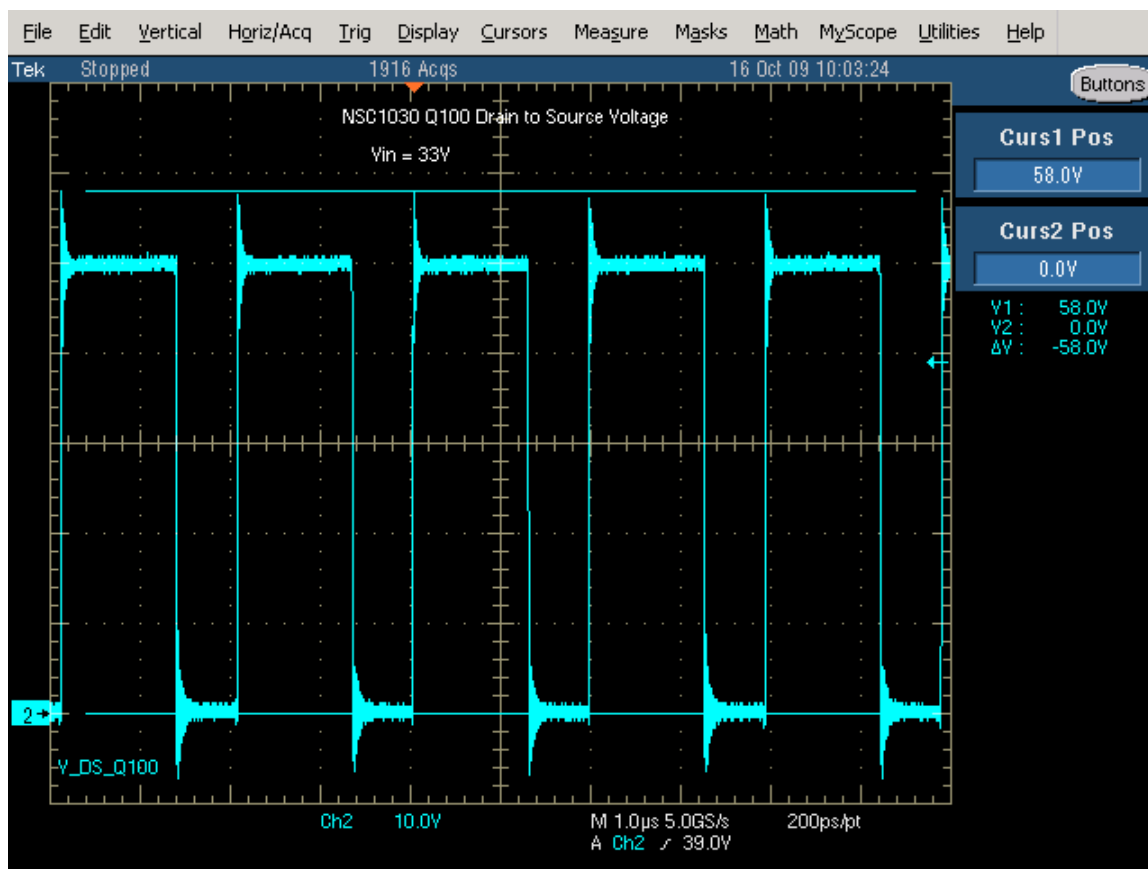
■ Output current

2.3 Output Current for $V_{in} = 12V$



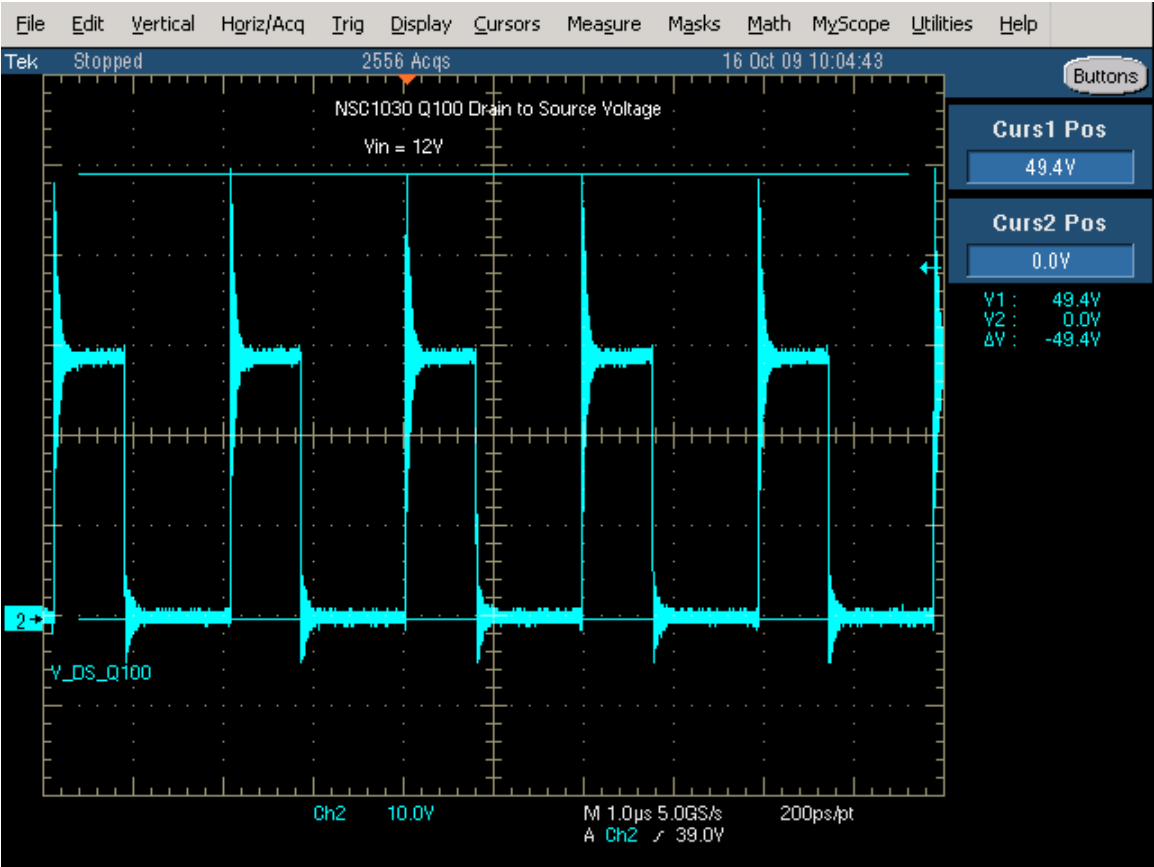
■ Output current

2.4 Drain to Source voltage for $V_{in} = 33V$



■ Drain to source voltage

2.5 Drain to Source voltage for Vin = 12V



■ Drain to source voltage

3.0 Efficiency results

Efficiency with DC Input				
Vin (Vdc)	Iin (A dc)	Vout (Vdc)	Iout (A dc)	Efficiency
6.025	5.26	16.7	1.57	0.82732
8.003	4.2	16.7	1.76	0.874434
10.023	3.22	16.7	1.75	0.905526
12.075	2.64	16.7	1.752	0.917824
24.023	1.29	16.7	1.72	0.92689
33.02	0.94	16.7	1.71	0.920042
Efficiency with AC Input				
Vin (Vac)	Pin (W)	Vout (Vdc)	Iout (A dc)	Efficiency
23.84	33.09	16.7	1.728	0.872094

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