

PMP7753

PMP7753 Test Results



Literature Number:SNVU005

Isolated Flyback Offline LED Driver
TI reference design number: PMP 7753
(Formerly National Semiconductor design NSC1045)

Input: +120Vac
Output: 4X4 LEDs @ 1.5A

AC-DC Test Results

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1.0 Circuit Description

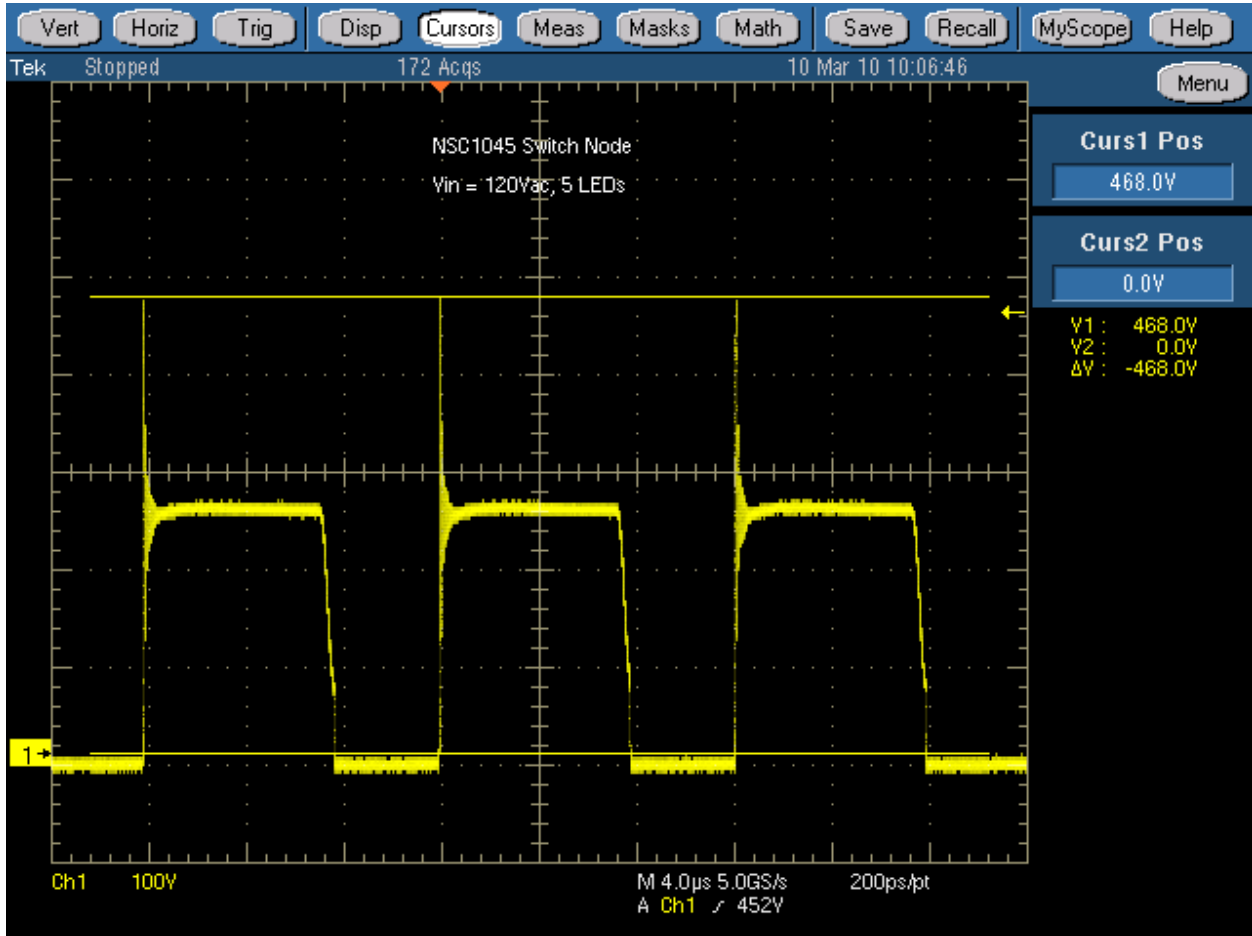
120Vac Isolated Offline Flyback AC to DC converter with constant current Feedback for driving 4 LEDs at 1.5A. Also implemented is a simple circuit to decode a dimming signal from a TRIAC, This dimming decoder circuit, controls the dimming level of the LEDs.

Some of the typical applications are:

- Retro Fit Triac Dimming
- Solid State Lighting
- Industrial and Commercial Lighting
- Residential Lighting

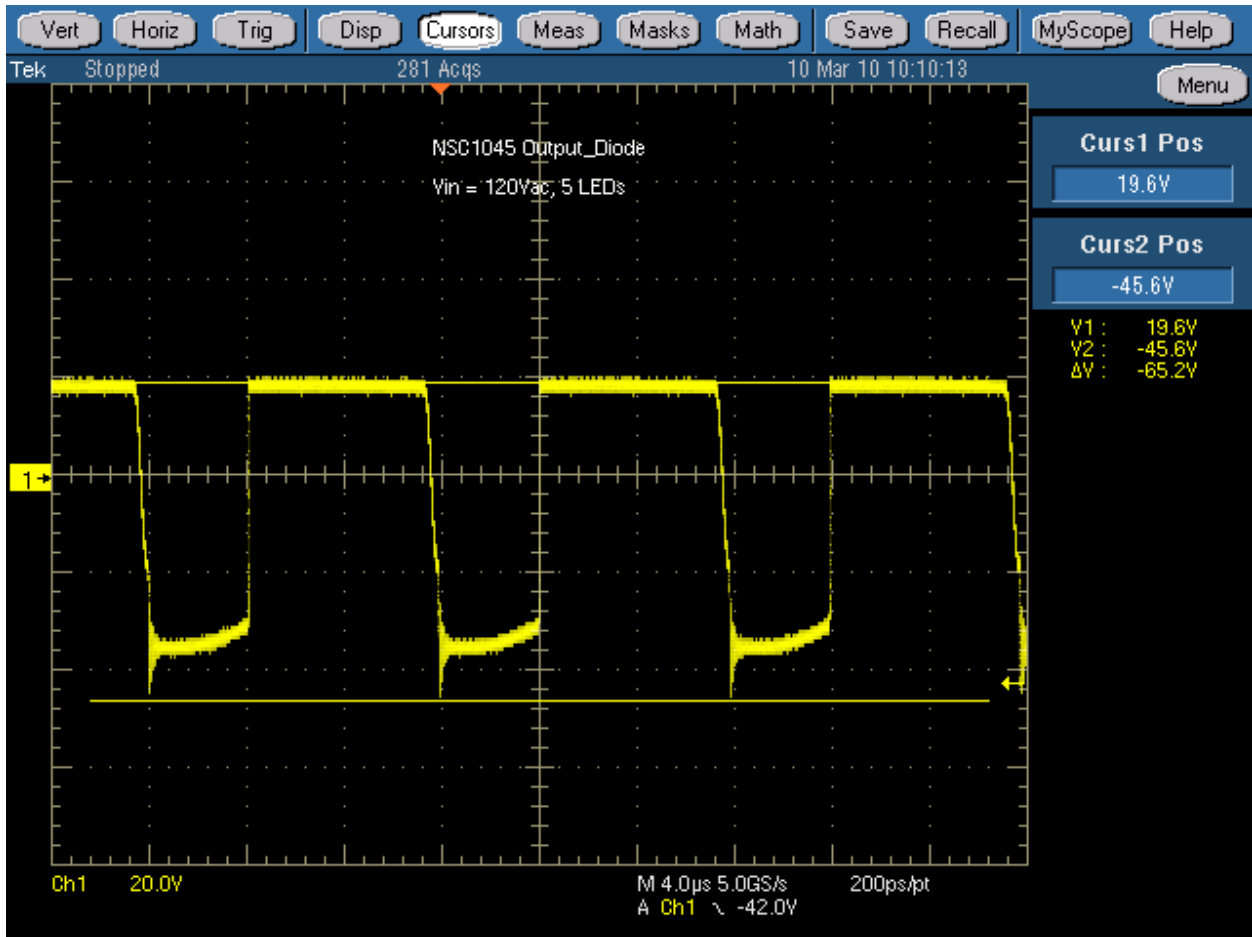
2.0 Waveforms

2.1 Switch node voltage for $V_{in} = 120V_{ac}$



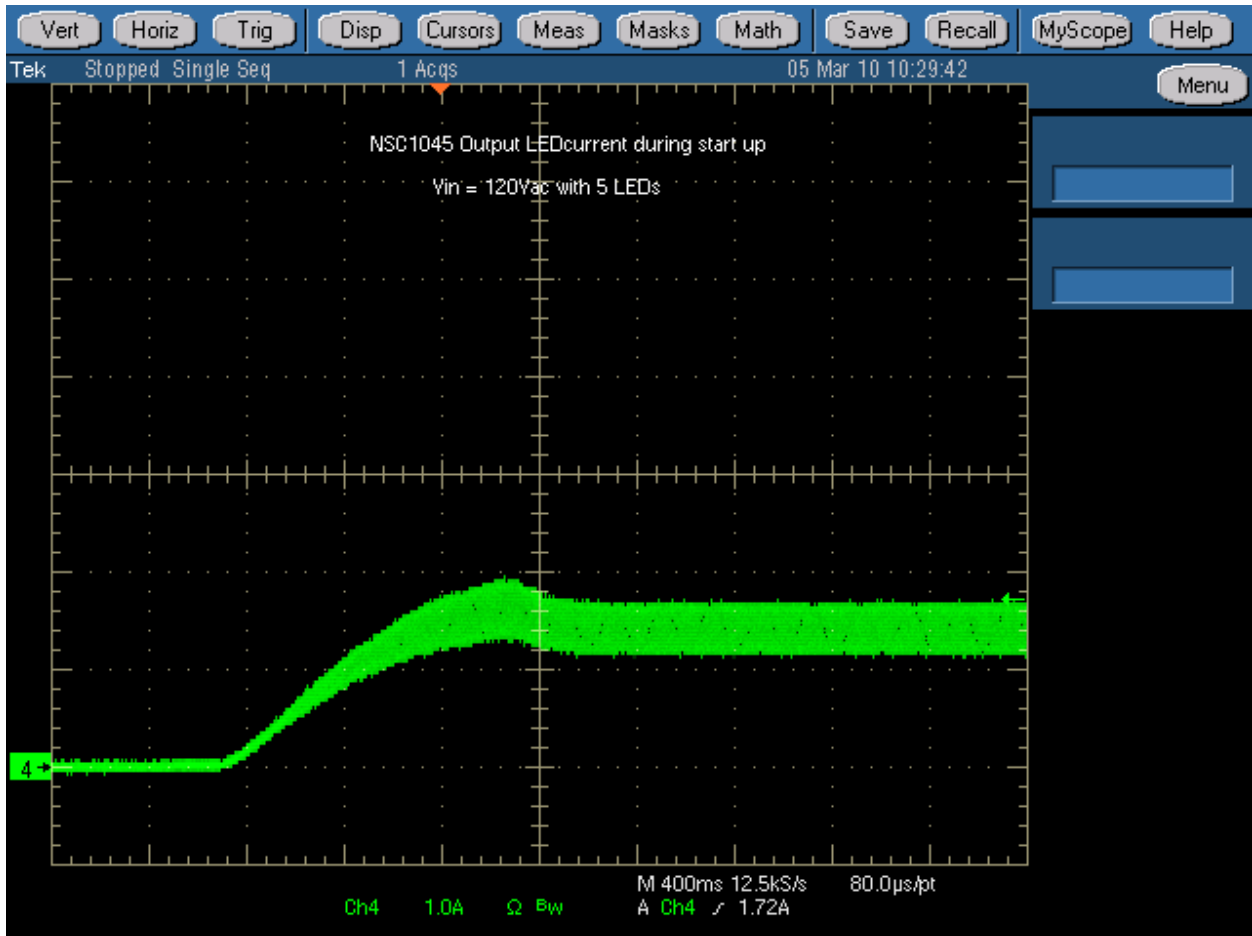
■ Switch node voltage

2.2 Voltage across output diode for $V_{in} = 120V_{ac}$



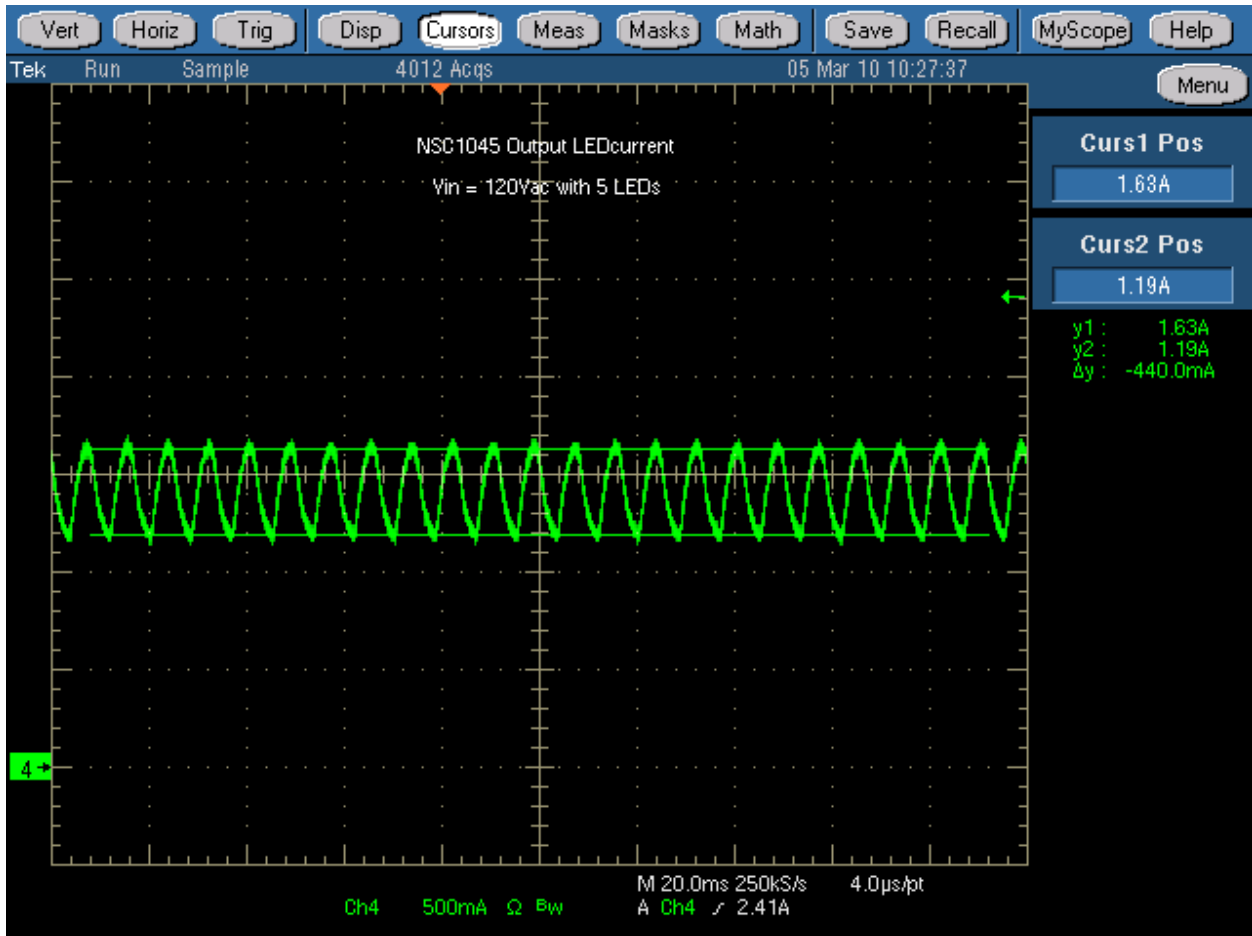
■ Output diode voltage

2.3 Start up LED output current waveform for Vin = 120Vac



■	Capacitor voltage
■	LED current

2.4 Output LED current for $V_{in} = 120V_{ac}$



■ Output LED current

3.0 Efficiency results

Vin (V)	Iin (A)	Pin (W)	PF	Vout (V)	Iout (A)	Efficiency(%)
108	0.217	21.47	0.914	12.31	1.473	84.45565906
120	0.192	21.35	0.915	12.33	1.473	85.06833724
132	0.176	21.23	0.915	12.32	1.473	85.47979275

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