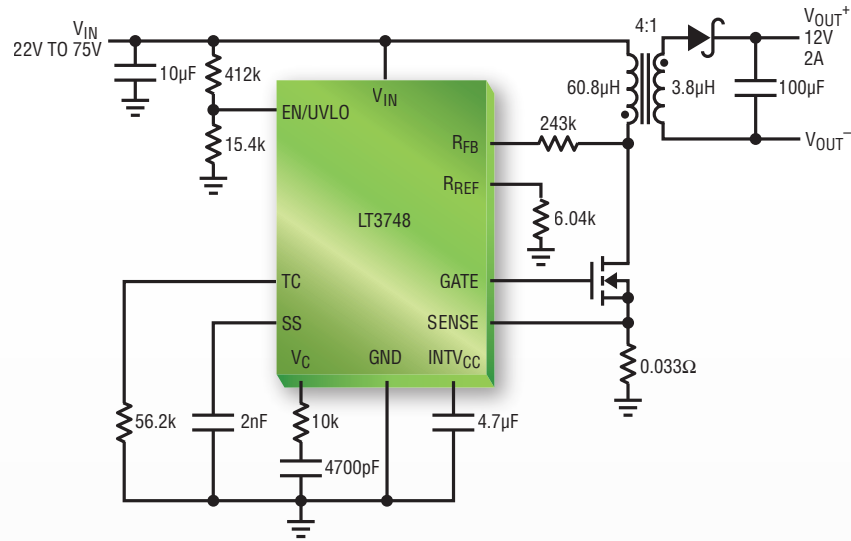


# 48V No-Opto Isolated Applications



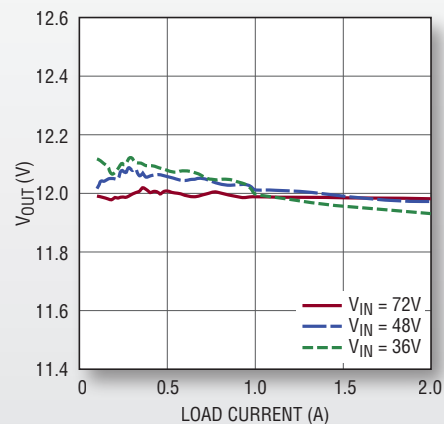
## The Transformer is the Only Part Crossing the Isolation Barrier

The LT<sup>®</sup>3748 is a high input voltage isolated flyback DC/DC controller that does not require an opto-isolator, third winding or signal transformer for feedback. The output voltage is sensed from the primary-side flyback signal, and is set with two external resistors and the transformer turns ratio. The LT3748 operates over a 5V to 100V input voltage range, drives an external N-channel power MOSFET and maintains better than  $\pm 5\%$  overall regulation.

### Features

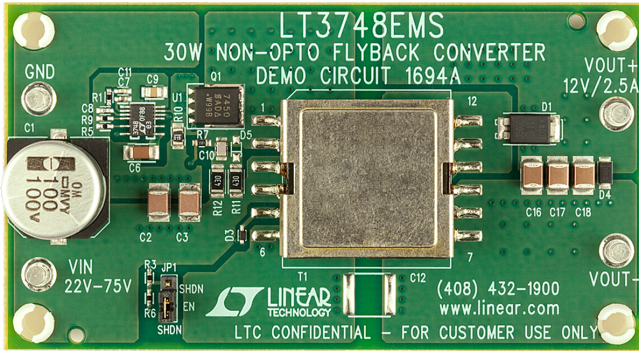
- Input Voltage Range: 5V to 100V
- No Opto-Coupler Required
- Primary-Side Winding  $V_{OUT}$  Sensing
- $V_{OUT}$  Set with Two External Resistors
- 1.9A Onboard Gate Driver
- Boundary Mode Operation
- Off-the-Shelf Transformers
- Only One Part Crossing the Isolation Barrier
- MSOP-16 with High Voltage Spacing
- Programmable Soft-Start

### Output Load and Line Regulation



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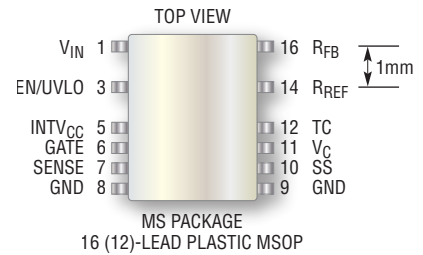
## LT3748 Demo Board



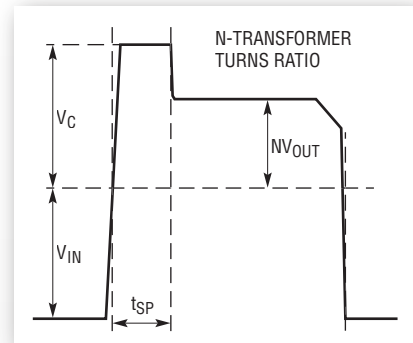
ACTUAL CIRCUIT SIZE: 38mm × 19mm × 9.5mm

The LT3748 is available in an MSOP-16 package with 4 pins removed for high voltage spacing. The high level of integration, readily available off-the-shelf transformers and the use of boundary mode operation results in a simple, clean application solution.

## LT3748 Package Outline



## Primary-Side Switch Node Waveform



OUTPUT VOLTAGE SENSING AT SWITCH NODE

## Examples of Off-the-Shelf Transformers (See Data Sheet for More Options)

Target Application	Supplier	Size (W × L × H) (mm)	Part Number
20V to 75V → 12V/1A	Pulse	18 × 14 × 13	PA2367NL
20V to 75V → 5V/2A	Pulse	18 × 14 × 13	PA1260NL
10V to 40V → 10V/2.5A	Pulse	29 × 22 × 11.5	PA3177NL
30V to 75V → 12V/1A	Würth	18 × 14 × 13	750311424
30V to 75V → 5V/3A	Würth	18 × 14 × 13	750311423
10V to 40V → 5V/3A	Würth	18 × 14 × 13	750311564
20V to 75V → 12V/2.5A	Würth	29 × 23 × 11.5	750311607

## Other Related Flyback Converters and Controllers from Linear Technology

Part Number	V <sub>IN</sub> Range (V)	No Opto-Coupler Required	Onboard Switch	Max Output Power
LT3511	4.5 to 100	✓	0.24A/150V	2.5W
LT3512	4.5 to 100	✓	0.40A/150V	5W
LT3574	3 to 40	✓	0.65A/60V	3W
LT3573	3 to 40	✓	1.25A/60V	7W
LT3575	3 to 40	✓	2.5A/60V	14W
LT3758	5.5 to 100		NA	60W
LT3757	2.9 to 40		NA	60W