

TI FTU/DTU/Broadband PLC Solution

LV3842

Features

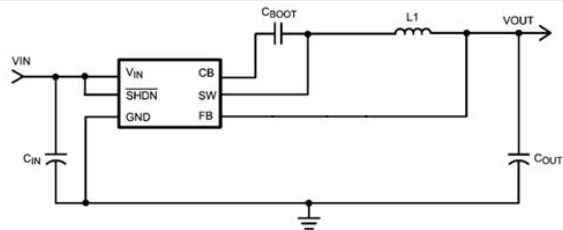
- Vin range:4V- 36V
- Internal compensation at whole Fsw range
- 60ns minimum on time(typ)
- 1.1MHz/2.1MHz
- Integrated HS/LS MOSFET
- Forced PWM
- Hiccup overcurrent protection
- SOT23-6 package

Applications

- Industrial distributed power application
- Broadband PLC

Benefits

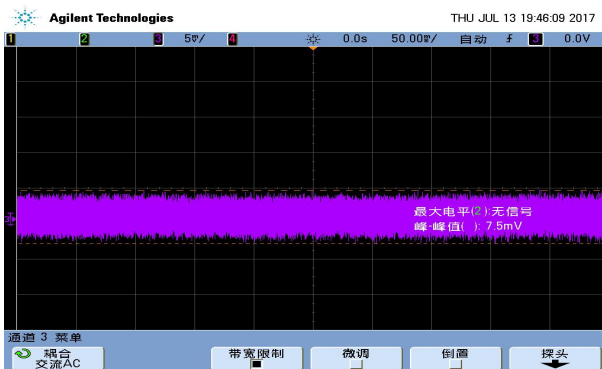
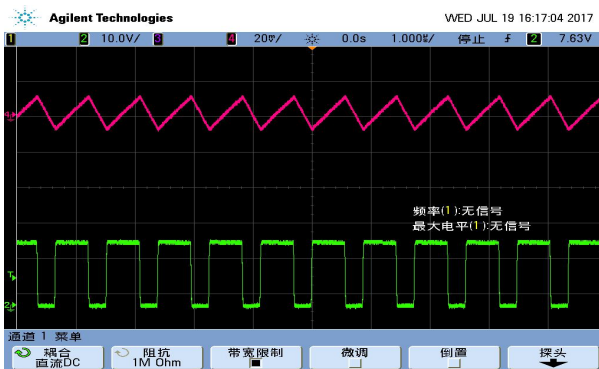
- Wide Vin to meet battery conditions or input transient
- Ease of use, fast TTM
- Single stage step down from high input to low output
- Fully synchronous reduce system solution size
- Reduce output ripple at light load condition
- Multi-choices between efficiency and solution size
- Minimize solution size
- More reliability at short circuit
- P2P compatible with LV2842/LMR14006
- Save high accuracy shunt regulator and PCB size



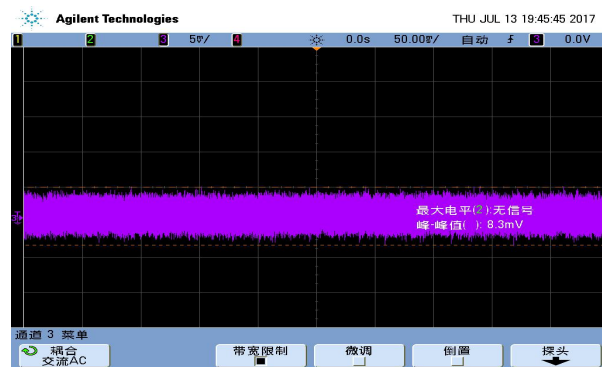
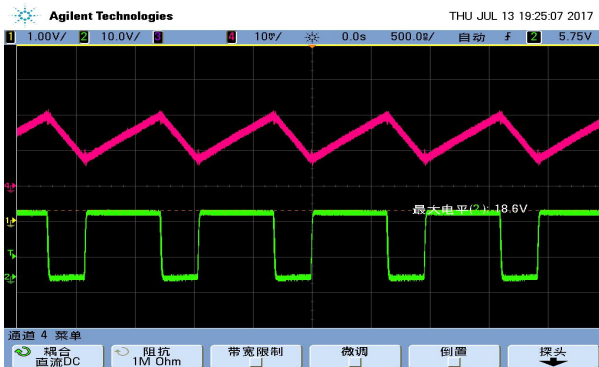
LV3842 Key Specifications

Spec	Texas Instruments	Benefits
P/N	LV3842	
$V_{in}(V)$	36	<i>Wide Vin to meet battery conditions or input transient</i>
$I_{out}(mA)$	600	
Synchronous	Yes	<i>Fully synchronous reduce system solution size</i>
Control Mode	CM	
Frequency	1100/2100kHz	<i>Multi-choices between efficiency and solution size</i>
Standby $I_Q(mA)$	0.08	
$T_{on_min}(ns)$	60	<i>Single stage step down from high input to low output</i>
$R_{dson} (m\Omega/m\Omega)$	500/285	
FPWM option	Yes	<i>Reduce output ripple at light load condition</i>
Θ_{JA}	102	
FB/Accuracy	1V	

LV3842 Bench Testing



18Vin/12Vo@0A
Output ripple<8mV



18Vin/12Vo@250mA
Output ripple<9mV

TPS61087:

18.5Vout, 3.2A, 650kHz / 1.2MHz Step-Up DC-DC Converter with Forced PWM Mode

FEATURES

- 2.5V to 6.0V input voltage range
- Vs output voltage up to 18.5V
- 3.2A switch current limit
- 650kHz/1.2MHz selectable switching frequency
- <1% accuracy
- Thermal shutdown
- Undervoltage lockout
- Internal Softstart

APPLICATIONS

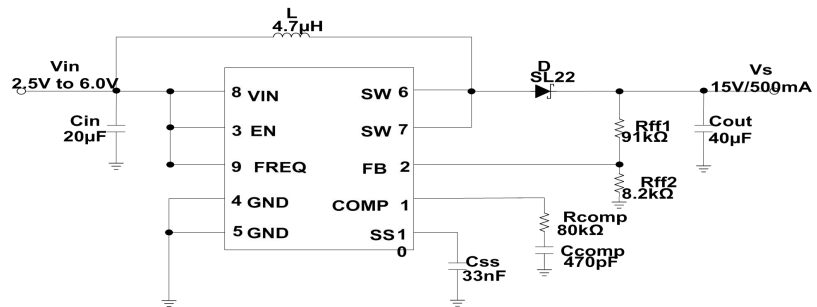
- Power over COAX.
- General Purpose POL
- LCD Display bias Power



TPS61087EVM-317

BENEFITS

- Selectable switching frequency allows optimization of efficiency, board space and EMI characteristics. Permits staying below the AM band switching frequency.
- Adjustable soft-start limits the inrush current during start-up.
- High efficiency over the load range with higher than 80% at light load.
- 0.8 mm height with wettable flanks for optical inspection during production.



OPA188 / OPA2188 / OPA4188

0.03 μ V/ $^{\circ}$ C typ, 6 μ V Vos typ, 36V Zero-Drift Operational Amplifier

Features

- Very Low Offset and Drift
- **Offset Voltage: 25 μ V (max)**
- Offset Voltage Drift: 0.085 μ V/ $^{\circ}$ C max
- CMRR, PSRR, Aol = 130dB (min)
- Noise Voltage: 8.8nV/ \sqrt Hz at 1kHz
- Noise voltage at 0.1Hz to 10Hz: 0.25uVpp
- **GBW : 2MHz**
- Low Quiescent Current: 475 μ A (max)
- **Supply Range: +4.0V to +36V or \pm 2V to \pm 18V**
- Rail to Rail Output
- EMI/RFI Filtered Inputs
- Input common mode range extending from negative rail to within 1.5V of the positive rail

Benefits

- Improved high accuracy and stability
- Allows for high sensitivity, high resolution systems
- Flexibility in design, enabling low power 5V single supply operation. Nearest competitor part's minimum input range is at 1.5V from negative rail, thus no single supply operation is possible.
- OPAx188 will have 68% less error caused by input bias current than the nearest competition

Applications

- Electronic Weigh Scales
- Bridge Amplifier
- Strain Gauge
- Automated Test Equipment
- Transducer amplifier
- Medical Instrumentation
- Resistor Thermal Detector

Packaging options:

Single: SO-8, MSOP-8, SOT-23

Dual: SO-8, MSOP-8

Quad: SO-14, TSSOP-14

THS6212

Fully Differential, VDSL2 and PLC Line Driver Amplifier

Features

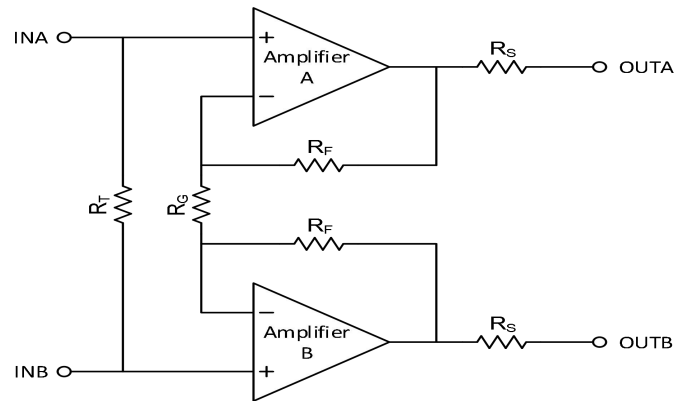
- 150 MHz -3dB Bandwidth (Gain = 10 V/V)
- SR: 3800V/us Typ
- Low Noise
 - 2.7 nV/rtHz Voltage Noise
 - 17 pA/rtHz Inverting Current Noise
 - 1.2 pA/rtHz Noninverting Current Noise
- -93 dBc HD3 (1MHz, 100Ohm Differential)
- Output Current > 416 mA (25 Ohm Load)
- Wide Output Swing: 43.2 Vpp
- PSRR: 50 dB @ 1MHz
- High Input Impedance
- Power Supply range from 10V to 28V
- Multiple Power Modes
 - 21 mA (Full Bias)
 - 16.2 mA (Mid Bias)
 - 11.2 mA (Low Bias)
- QFN-24 package pin-to-pin compatible with THS6214

Applications

- Wideband PLC Line Driver
- Generic System Line Driver
- High Power Output Current Feedback Amplifier

Benefits

- High output voltage swing and current drive ideal for line driving applications
- High input impedance allows for easy input termination to the amplifier
- Multiple power supply modes create optimal power-to-performance optimization;



Thanks

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