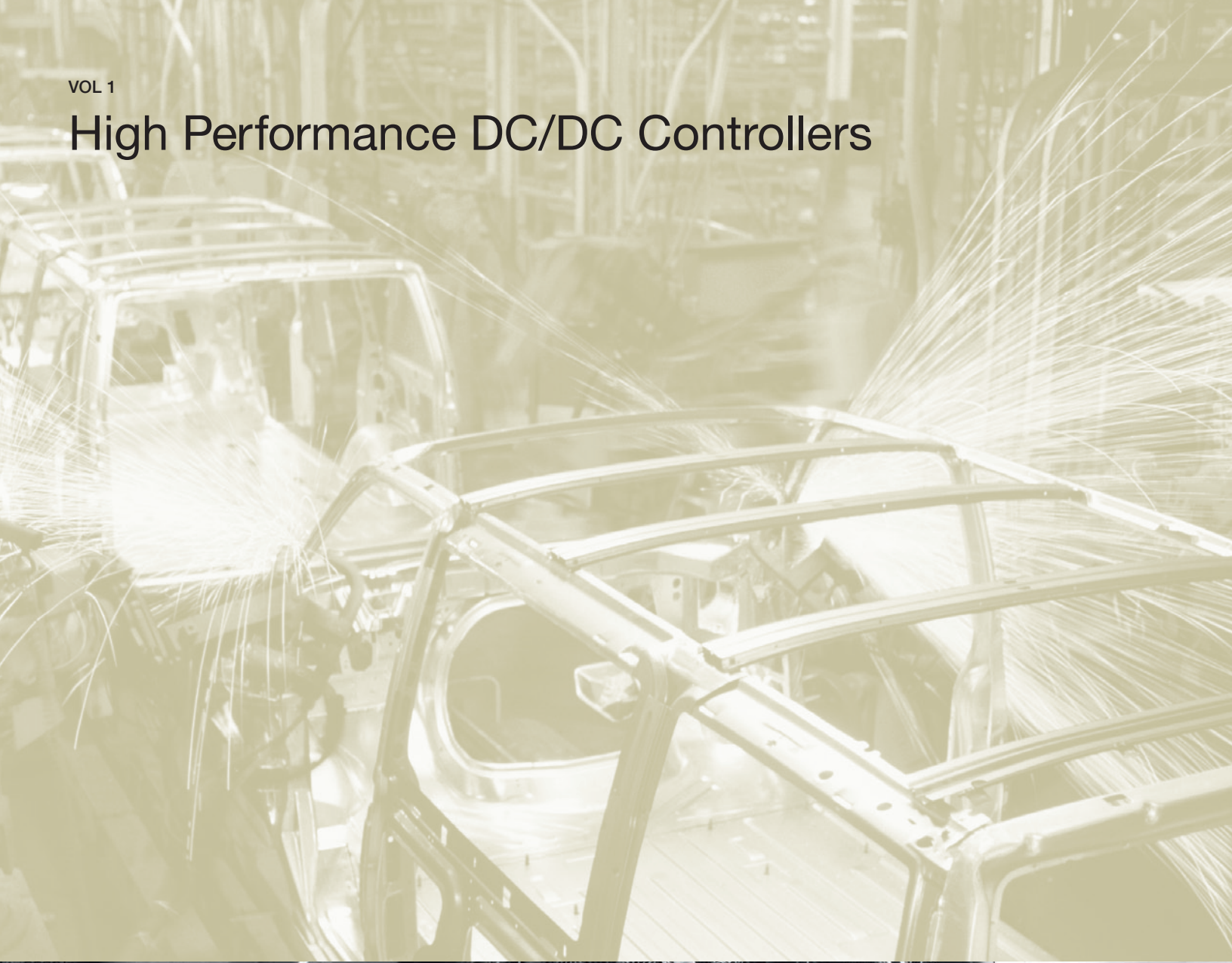


VOL 1

High Performance DC/DC Controllers



High Performance DC/DC Controllers

Introduction

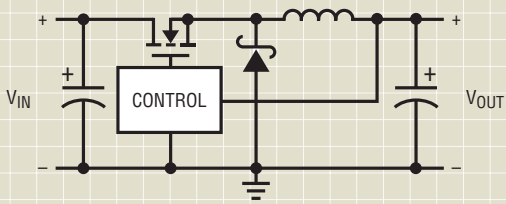
Linear Technology offers complete power solutions with a full lineup of power management products. This brochure provides an overview of our high performance DC/DC switching regulator controllers for applications including datacom, telecom, industrial, automotive, medical, avionics, control systems and consumer products. Linear makes power design easier by providing industry-leading field application engineering support; a broad selection of demonstration boards with schematics, layout files and parts lists; SwitcherCAD™ software for simulation; application notes and comprehensive technical documentation.

Contents

| | |
|----|---|
| | Topologies |
| 01 | DC/DC Converter Topologies |
| | Step-Down (Buck) DC/DC Controllers |
| 02 | Single Output V_{IN} up to 10V |
| 03 | Single Output V_{IN} up to 40V |
| 04 | Single Output V_{IN} up to 60V/100V |
| 05 | Single Output PolyPhase® Step-Down DC/DC Controllers |
| 06 | Multiple Output PolyPhase Step-Down DC/DC Controllers |
| | Step-Up (Boost), Buck-Boost, SEPIC, Inverter and Flyback |
| 07 | Step-Up DC/DC Controllers |
| 08 | Synchronous Buck-Boost DC/DC Controllers |
| 09 | SEPIC DC/DC Controllers |
| 10 | Inverter DC/DC Controllers |
| 11 | Flyback DC/DC Controllers, Isolated and Non-Isolated |
| | MicroPower, Multiple Topologies, DDR/QDR, Monitor, Margining, Hot Swap™ and MOSFET Drivers |
| 12 | MicroPower–Low Quiescent Current DC/DC Controllers |
| 13 | Multiple Topology DC/DC Controllers |
| 14 | DDR/QDR Memory Termination DC/DC Controllers |
| 15 | Power Supply Monitor, Margining and Hot Swap |
| 16 | High Speed MOSFET Drivers |

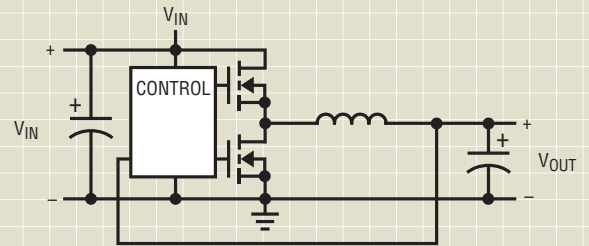
DC/DC Converter Topologies

Step-Down (Buck) Converter



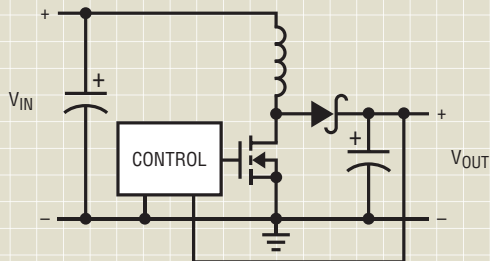
- $V_{OUT} < V_{IN}$

Synchronous Step-Down (Buck) Converter



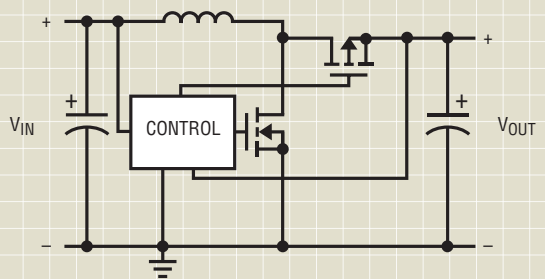
- More Efficient than a Standard Buck

Step-Up (Boost) Converter



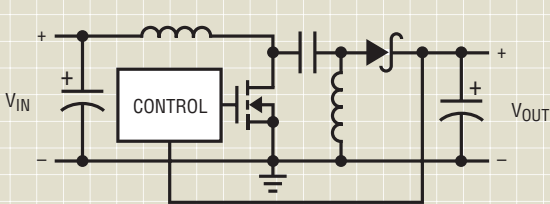
- $V_{OUT} > V_{IN}$

Synchronous Step-Up (Boost) Converter



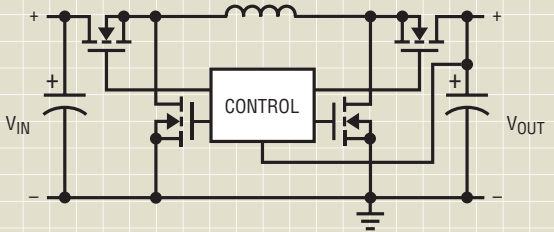
- More Efficient than a Standard Boost

SEPIC Converter



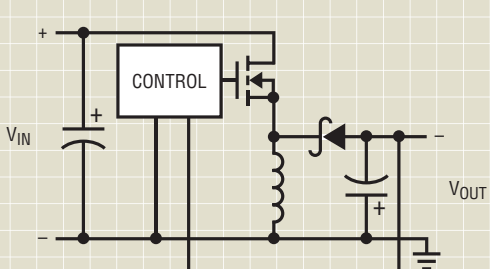
- V_{IN} Above, Below or Equal to V_{OUT}

Synchronous Buck-Boost Converter



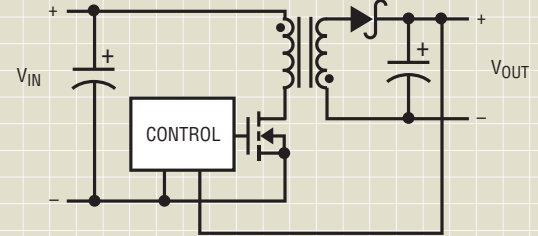
- V_{IN} Above, Below or Equal to V_{OUT}
- More Efficient than a SEPIC

Inverter



- Changes Input Voltage from Positive to Negative Voltage

Flyback Converter

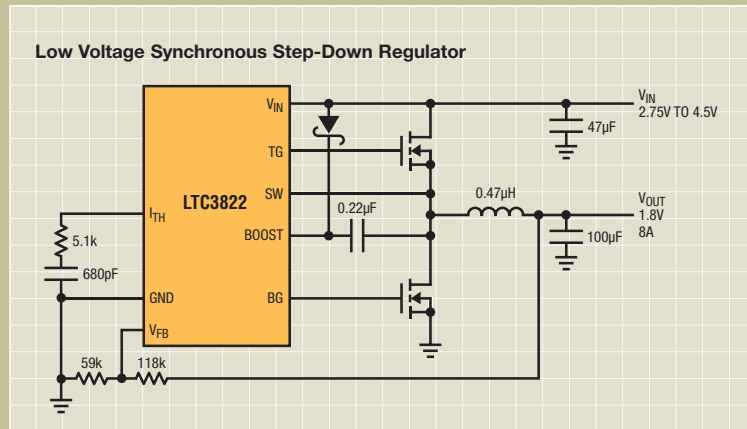


- Isolated and Non-Isolated
- High V_{OUT}/V_{IN} Ratios
- Simple

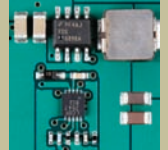
Single Output Step-Down (Buck) DC/DC Controllers

Linear Technology's single output step-down DC/DC controllers provide up to 96% efficient step-down conversion. Output voltages as low as 0.6V are accommodated with currents up to 60 amps. Features include synchronous or non-synchronous operation, on-board MOSFET drivers, low quiescent current, tracking, tight reference voltage accuracy, optional sense resistor, current mode or voltage mode control and selectable or synchronizable operating frequency. Linear offers several hundred step-down controllers. Only a select few are listed below. For a complete list, visit www.linear.com or contact your local sales office.

V_{IN} up to 10V



LTC3822
Demonstration Board

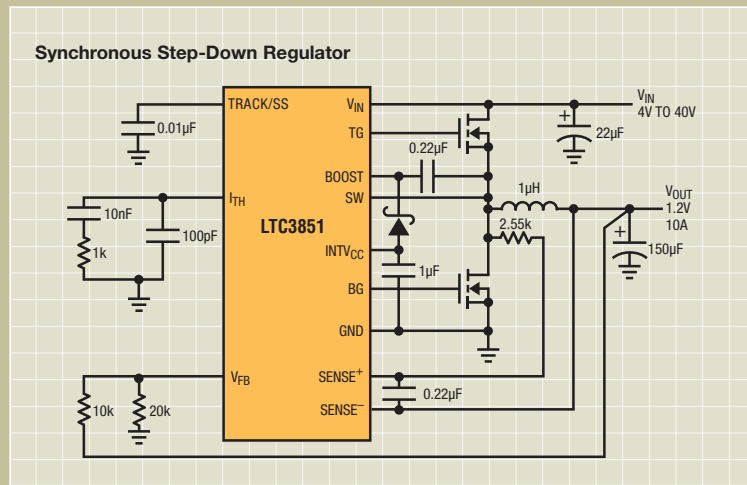


| Part Number | V_{IN} Range (V) | V_{OUT} Range (V) | $I_{OUT}^{(1)}$ Max (A) | Operating Frequency ⁽²⁾ | I_o | Package | Synchronous Rectification | No R_{SENSE} | Tracking | Synchronizable | Shut-down | Power Good Signal | Programmable Soft-Start | Current (I) or Voltage (V) Mode Control |
|-------------|--------------------|----------------------|-------------------------|------------------------------------|-------|--------------------|---------------------------|----------------|----------|----------------|-----------|-------------------|-------------------------|---|
| LTC3772/B | 2.75 to 9.8 | 0.8 to V_{IN} | 5 | 550kHz | 40µA | DFN-8, ThinSOT™ | | √ | | | √ | | | I |
| LTC3801/B | 2.4 to 9.8 | 0.8 to V_{IN} | 5 | 550kHz | 16µA | ThinSOT | | | | | √ | | | I |
| LTC3808 | 2.75 to 9.8 | 0.6 to V_{IN} | 5 | 250kHz to 750kHz | 105µA | DFN-14, SSOP-16 | √ | √ | √ | PLL | √ | √ | | I |
| LTC3809/-1 | 2.75 to 9.8 | 0.6 to V_{IN} | 5 | 250kHz to 750kHz | 105µA | DFN-10, MSOP-10E | √ | √ | √ | PLL | √ | | | I |
| LTC1622 | 2 to 9.8 | 0.8 to V_{IN} | 5 | 550kHz | 350µA | MSOP-8, S8 | | | | √ | √ | | √ | I |
| LTC1772/B | 2.5 to 9.8 | 0.8 to V_{IN} | 5 | 550kHz | 230µA | ThinSOT | | | | | √ | | | I |
| LTC1773 | 2.65 to 8.5 | 0.8 to V_{IN} | 10 | 550kHz to 750kHz | 80µA | MSOP-10 | √ | | | √ | √ | | √ | I |
| LTC3822 | 2.75 to 4.5 | 0.6 to $0.99V_{IN}$ | 20 | 300kHz/550kHz/750kHz | 360µA | DFN-10, MSOP-10 | √ | √ | | | √ | | | I |
| LTC3822-1 | 2.75 to 4.5 | 0.6 to $0.99V_{IN}$ | 20 | 300kHz/550kHz/750kHz | 105µA | DFN-12, SSOP-16 | √ | √ | √ | √ | √ | √ | √ | I |
| LTC3830/-1 | 3 to 8 | 1.26 to $0.91V_{IN}$ | 20 | 100kHz to 500kHz | 700µA | S8, SO-16, SSOP-16 | √ | √ | | √ | √ | | √ | V |
| LTC3832/-1 | 3 to 8 | 0.6 to $0.91V_{IN}$ | 20 | 100kHz to 500kHz | 700µA | SO-8, SSOP-16 | √ | √ | | √ | √ | | √ | V |

Note (1) The maximum output current depends on the choice of external components

(2) The operating frequency can be selected within the range indicated

Single Output Step-Down (Buck) DC/DC Controllers

 V_{IN} up to 40VLTC3851
Demonstration Board

| Part Number | V_{IN} Range (V) | V_{OUT} Range (V) | $I_{OUT}^{(1)}$ Max (A) | Operating Frequency ⁽²⁾ | I_o | Package | Synchronous Rectification | Differential V_o Sensing | No R_{SENSE} | Tracking | Synchronizable | Power Good Signal | Number of Phases |
|------------------------|--------------------|----------------------|-------------------------|------------------------------------|--------------|-------------------|---------------------------|----------------------------|----------------|----------|----------------|-------------------|------------------|
| LTC1771 | 2.8 to 20 | 1.23 to 18 | 5 | Constant Off-Time | 10µA | MSOP-8, SO-8 | | | | | | | 1 |
| LTC1624 | 3.5 to 36 | 1.19 to $0.95V_{IN}$ | 5 | 200kHz | 550µA | SO-8 | | | | | | | 1 |
| LTC1625 | 3.7 to 36 | 1.19 to $0.99V_{IN}$ | 10 | 150kHz | 500µA | SSOP-16 | √ | | √ | | | | 1 |
| LT3740 | 2.2 to 22 | 0.8 to $0.77V_{IN}$ | 20 | 300kHz | 2.5mA | DFN-16 | √ | | √ | √ | | √ | 1 |
| LTC3823 | 4.5 to 30 | 0.6 to $0.9V_{IN}$ | 20 | Constant On-Time | 1.4mA | QFN-32, SSOP-28 | √ | √ | √ | √ | PLL | √ | 1 |
| LTC3770 | 4.5 to 32 | 0.6 to $0.9V_{IN}$ | 20 | Constant On-Time | 1.3mA | QFN-32, SSOP-28 | √ | | √ | √ | PLL | √ | 1 |
| LTC1735/-1 | 3.5 to 36 | 0.8 to 7 | 20 | 200kHz to 600kHz | 450µA | SSOP-16, TSSOP-20 | √ | | | | √ | √ | 1 |
| LTC1775 | 3.7 to 36 | 1.19 to $0.99V_{IN}$ | 20 | 150kHz | 500µA | SSOP-16 | √ | | √ | | | √ | 1 |
| LTC1778/-1 | 4 to 36 | 0.8 to $0.9V_{IN}$ | 20 | Constant On-Time | 900µA | SSOP-16 | √ | | √ | | | √ | 1 |
| LTC3713 | 1.5 to 36 | 0.8 to $0.9V_{IN}$ | 20 | 200kHz to 1.5MHz | 900µA | SSOP-24 | √ | | √ | | | √ | 1 |
| LTC3778 | 4 to 36 | 0.6 to $0.9V_{IN}$ | 20 | Constant On-Time | 900µA | SSOP-20 | √ | | √ | | | √ | 1 |
| LTC3835 LTC3834 | 4 to 36 | 0.8 to 10 | 20 | 140kHz to 650kHz | 80µA 30µA | DFN-20, SSOP-20 | √ | | | √ | PLL | √ | 1 |
| LTC3835-1 LTC3834-1 | 4 to 36 | 0.8 to 10 | 20 | 140kHz to 650kHz | 80µA 30µA | DFN-16, SSOP-16 | √ | | | √ | PLL | | 1 |
| LTC3851/-1 | 4 to 40 | 0.8 to 5.5 | 25 | 250kHz to 750kHz | 1mA | QFN-16, SSOP-16 | √ | | √ | √ | PLL | √ | 1 |
| LTC1929/PG | 4.5 to 36 | 0.8 to 7 | 40 | 150kHz to 300kHz | 470µA | SSOP-28 | √ | √ | | | PLL | √ | 2 |
| LTC3729L-6 | 4 to 30 | 0.6 to 7 | 40 | 250kHz to 500kHz | 450µA | QFN-32 | √ | √ | | | PLL | √ | 2 |
| LTC3729 | 4 to 36 | 0.8 to 7 | 40 | 250kHz to 500kHz | 450µA | QFN-32, SSOP-28 | √ | √ | | | PLL | √ | 2 |
| LTC3731 | 4.5 to 36 | 0.6 to 7 | 60 | 250kHz to 600kHz | 2.3mA | SSOP-28 | √ | √ | | | PLL | √ | 3 |

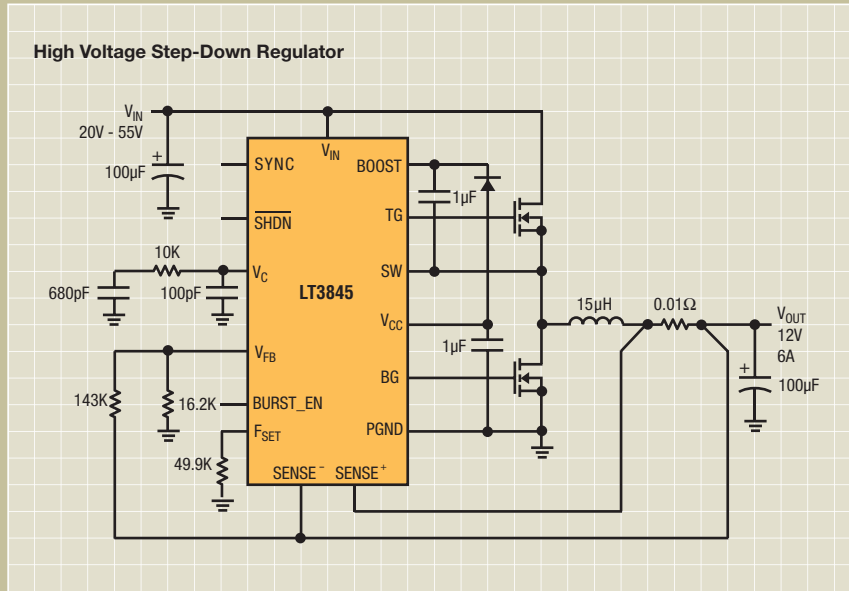
Note (1) The maximum output current depends on the choice of external components

(2) The operating frequency can be selected within the range indicated

Additional Features: All parts have peak or valley current mode control and a shut-down (run) pin

Single Output Step-Down (Buck) DC/DC Controllers

V_{IN} up to 100V



LT3845
Demonstration Board



| Part Number | V_{IN} Range (V) | V_{OUT} Range (V) | $I_{OUT}^{(1)}$ Max (A) | Operating Frequency ⁽²⁾ | I_O | Package | Synchronous Rectification | No R_{SENSE} | Tracking | Synchronizable | Shut-down | Power Good Signal | Adjustable Turn-on Voltage | Current (I) or Voltage (V) Mode Control |
|-------------|--------------------|---------------------|-------------------------|------------------------------------|-------|-------------------|---------------------------|----------------|----------|----------------|-----------|-------------------|----------------------------|---|
| LT3724 | 4 to 60 | 1.23 to 36 | 5 | 200kHz | 100µA | TSSOP-16 | | | | | √ | √ | √ | I |
| LTC3824 | 4 to 60 | 0.8 to V_{IN} | 5 | 200kHz to 600kHz | 40µA | MSOP-10E | | | | √ | | | | I |
| LTC3703-5 | 4.1 to 60 | 0.8 to $0.93V_{IN}$ | 10 | 100kHz to 600kHz | 1.7mA | SSOP-16, TSSOP-28 | √ | √ | √ | √ | √ | | | V |
| LT3844 | 4 to 60 | 1.23 to 36 | 10 | 100kHz to 500kHz | 120µA | TSSOP-16E | | | | √ | √ | √ | √ | I |
| LTC3703 | 9.3 to 100 | 0.8 to $0.93V_{IN}$ | 10 | 100kHz to 600kHz | 1.7mA | SSOP-16, TSSOP-28 | √ | √ | √ | √ | √ | | | V |
| LT3845 | 4 to 60 | 1.23 to 36 | 20 | 100kHz to 500kHz | 120µA | TSSOP-16E | √ | | | √ | √ | √ | √ | I |
| LTC3812-5 | 4.2 to 60 | 0.8 to $0.93V_{IN}$ | 20 | 100kHz to 1MHz | 3mA | TSSOP-16E | √ | √ | | | √ | √ | | I |
| LT3800 | 4 to 60 | 1.23 to 36 | 20 | 200kHz | 100µA | TSSOP-16E | √ | | | | √ | | √ | I |
| LTC3810-5 | 4.2 to 60 | 0.8 to $0.93V_{IN}$ | 20 | 100kHz to 1MHz | 3mA | QFN-32 | √ | √ | √ | √ | √ | √ | √ | I |
| LTC3810 | 6.2 to 100 | 0.8 to $0.93V_{IN}$ | 20 | 100kHz to 1MHz | 3mA | SSOP-28 | √ | √ | √ | √ | √ | √ | √ | I |

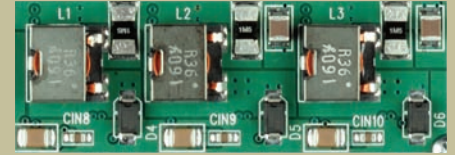
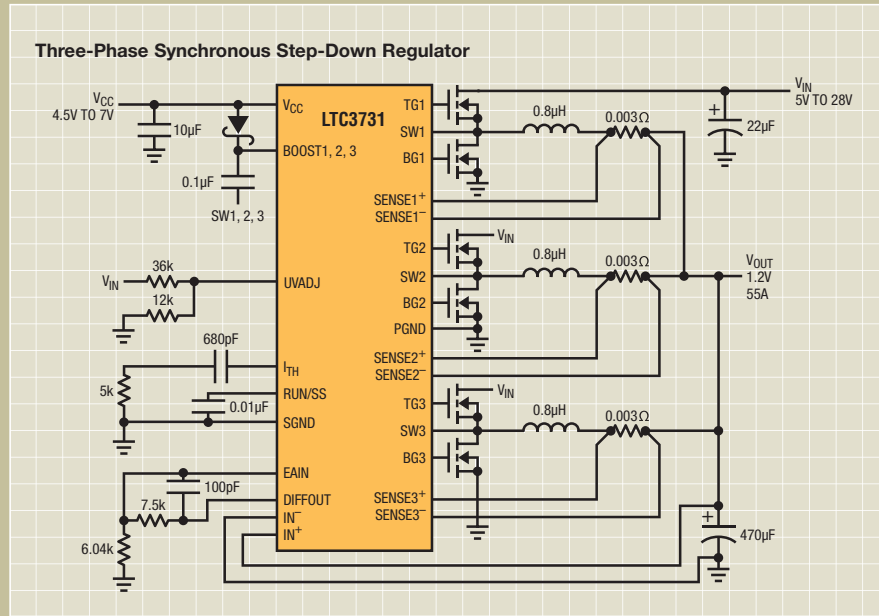
Note (1) The maximum output current depends on the choice of external components

(2) The operating frequency can be selected within the range indicated

Additional Features: All parts have programmable soft-start

Single Output PolyPhase Step-Down (Buck) DC/DC Controllers

PolyPhase operation clocks multiple DC/DC converter sections out-of-phase. This significantly reduces input and output ripple currents, resulting in higher efficiency, lower EMI and smaller input and output filtering components.



LTC3731 Demonstration Board

| Part Number | V_{IN} Range (V) | V_{OUT} Range (V) | $I_{OUT}^{(1)}$ Max (A) | # of Phases | I_o | Operating Frequency ⁽²⁾ | VID Code | Package | Phase Modulation/ Clock Out | EXT _{CC} | No R_{SENSE} | Stage Shedding ⁽³⁾ |
|--------------------|--------------------|---------------------|-------------------------|-------------|--------------|------------------------------------|------------|---------------------|--------------------------------|-------------------|----------------|-------------------------------|
| LTC3734 | 4 to 36 | 0.7 to 1.71 | 20 | 1 | 2mA | 210kHz to 550kHz | IMVP-4 | QFN-32 | | | | √ |
| LTC3835 LTC3834 | 4 to 36 | 0.8 to 10 | 20 | 1 | 80µA 30µA | 140kHz to 650kHz | None | QFN-20, TSSOP-20 | √ | √ | | |
| LTC3735 | 4 to 36 | 0.7 to 1.71 | 40 | 2 | 2mA | 210kHz to 530kHz | IMVP-4 | QFN-38, SSOP-36 | | | | √ |
| LTC1929/PG | 4 to 36 | 0.8 to 7 | 40 | 2 | 470µA | 150kHz to 300kHz | None | SSOP-28 | | √ | | |
| LTC3719 | 4 to 36 | 0.8 to 1.55 | 40 | 2 | 1.2mA | 150kHz to 300kHz | AMD | SSOP-36 | | √ | | |
| LTC3732 | 4.5 to 32 | 1.1 to 1.85 | 55 | 3 | 2.2mA | 250kHz to 600kHz | VRM9.0/9.1 | QFN-38, SSOP-36 | | | | √ |
| LTC3733/-1 | 4 to 36 | 0.8 to 1.55 | 60 | 3 | 2.5mA | 210kHz to 530kHz | AMD | QFN-38, SSOP-36 | | | | √ |
| LTC3738 | 4 to 28 | 0.84 to 1.6 | 60 | 3 | 2.5mA | 210kHz to 530kHz | VRM9/10 | QFN-38 | | | | √ |
| LTC3729L-6 | 4 to 30 | 0.6 to 7 | 40 to 240 | 2 to 12 | 470µA | 250kHz to 550kHz | None | QFN-32 | √ | √ | | |
| LTC3811 | 4.5 to 30 | 0.6 to 3.3 | 25 to 240 | 2 to 12 | 10.5mA | 250kHz to 750kHz | None | QFN-38, SSOP-36 | √ | √ | √ | |
| LTC3729 | 4 to 36 | 0.8 to 7 | 40 to 240 | 2 to 12 | 450µA | 250kHz to 550kHz | None | QFN-32, SSOP-28 | √ | √ | | |
| LTC3731 | 4 to 36 | 0.6 to 7 | 40 to 240 | 3 to 12 | 2.3mA | 250kHz to 600kHz | None | QFN-32, SSOP-36 | √ | | | √ |

Note (1) The maximum output current depends on the choice of external components and number of phases

(2) The operating frequency can be selected within the range indicated

(3) Stage Shedding maximizes light load efficiency

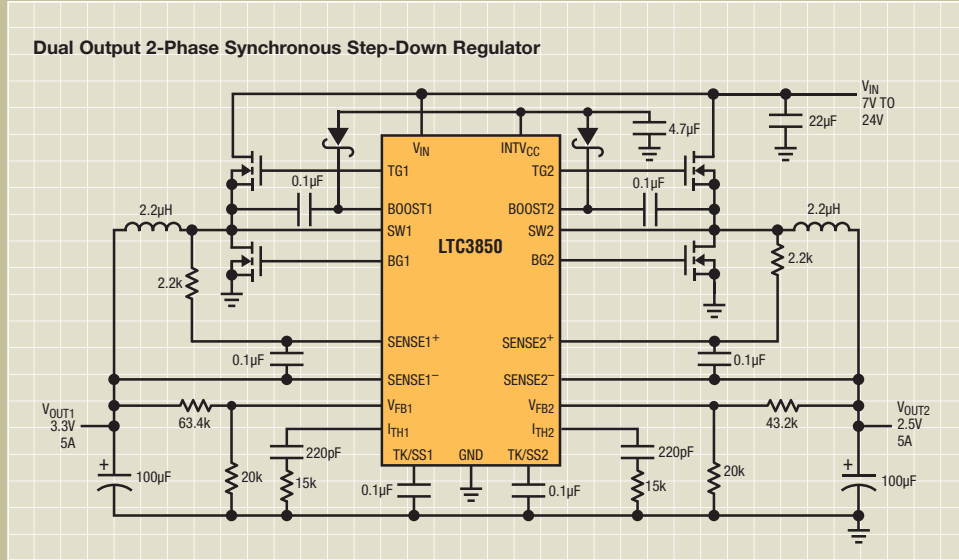
Additional Features: (A) All parts have differential V_o sensing, shut-down (run) pin, clock input, programmable soft-start and a power good signal

(B) All parts are peak current mode controllers

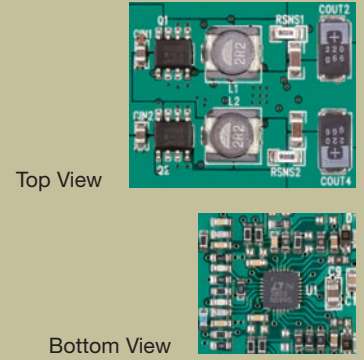
(C) Multiple parts can be paralleled for higher current applications

Multiple Output PolyPhase Step-Down (Buck) DC/DC Controllers

Linear’s PolyPhase multiple output DC/DC controllers provide up to three high current outputs with up to 95% efficiency. Features include out-of-phase operation, on-board MOSFET drivers, synchronous or non-synchronous rectification, low quiescent current, tracking, tight V_{REF} accuracy and optional current sense resistors. Other options include selectable, synchronizable switching frequency or constant-on time, spread spectrum and an extra LDO output voltage.



LTC3850 Demonstration Board



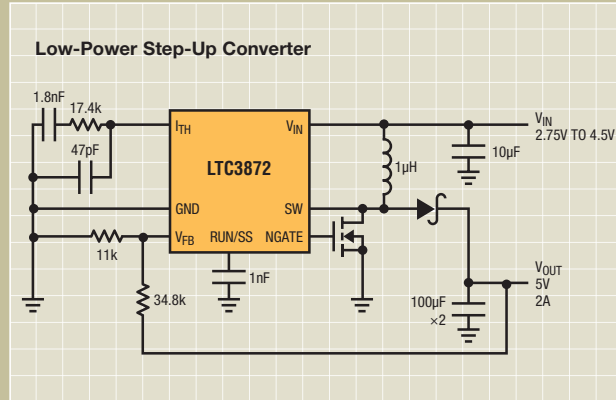
| Part Number | V_{IN} Range (V) | V_{OUT} Range (V) | $I_{OUT}^{(1)}$ Max (A) | I_Q | Operating Frequency ⁽²⁾ | Package | Number of Outputs | Maximum # of Phases | No R_{SENSE} | Tracking | Synchronizable | EXTV _{CC} | Current Sense Method | Current (I) or Voltage (V) Mode Control |
|--------------------------|--------------------|---------------------|-------------------------|-----------------|------------------------------------|--------------------|-------------------|---------------------|----------------|----------|----------------|--------------------|----------------------|---|
| LTC3736/-1/-2 LTC3737 | 2.75 to 9.8 | 0.6 to V_{IN} | 8/8 | 475µA/ 220µA | 300kHz to 750kHz | QFN-24, SSOP-24 | 2 | 2 | ✓ | ✓ | PLL | | $R_{DS(ON)}$ | I |
| LT3742 | 3.5 to 30 | 0.8 to V_{IN} | 5/5 | 5mA | 500kHz | QFN-24 | 2 | 2 | | | | | R_{SEN} | I |
| LTC3836 | 2.75 to 4.5 | 0.6 to $0.97V_{IN}$ | 10/10 | 450µA | 250kHz to 850kHz | SSOP-28, QFN-28 | 2 | 2 | ✓ | ✓ | ✓ | | $R_{DS(ON)}$ | I |
| LTC3802 | 3 to 30 | 0.6 to $0.90V_{IN}$ | 20/20 | 6.5mA | 330kHz to 750kHz | QFN-32, SSOP-28 | 2 | 2 | ✓ | ✓ | PLL | | $R_{DS(ON)}$ | V |
| LTC1876 | 3.5 to 36 | 0.8 to 7 | 20/20/1 | 350µA | 150kHz to 300kHz | SSOP-36 | 3 | 2 | | | | ✓ | R_{SEN} | I |
| LTC3773 | 3.3 to 36 | 0.6 to 5 | 20/20/20 | 2.3mA | 160kHz to 700kHz | QFN-38, SSOP-36 | 3 | 3 | | ✓ | PLL | | R_{SEN} | I |
| LTC3850 | 4.5 to 28 | 0.8 to 5.5 | 25/25 | 850µA | 250kHz to 780kHz | QFN-28, SSOP-28 | 2 | 2 | ✓ | ✓ | PLL | ✓ | R_{SEN} or DCR | I |
| LTC3828 | 4.5 to 28 | 0.8 to 7 | 20/20 | 2mA | 260kHz to 550kHz | QFN-32, SSOP-28 | 2 | 6 | | ✓ | PLL | | R_{SEN} | I |
| LTC3728/L/ LXL-1 | 4.5 to 28/36 | 0.8 to 6 | 20/20 | 450µA | 250kHz to 550kHz | QFN-32, SSOP-28 | 2 | 2 | | | PLL | ✓ | R_{SEN} | I |
| LTC3707 | 4.5 to 30 | 0.8 to 6 | 20/20 | 350µA | 150kHz to 300kHz | SSOP-28 | 2 | 2 | | | | ✓ | R_{SEN} | I |
| LTC3727/ -1/A-1/LX-1 | 4.5 to 36 | 0.8 to 14 | 20/20 | 670µA | 250kHz to 550kHz | QFN-32, SSOP-28 | 2 | 2 | | | PLL | ✓ | R_{SEN} | I |
| LTC3827/-1 LTC3826/-1 | 4 to 36 | 0.8 to 10 | 20/20 | 80µA/ 50µA | 140kHz to 650kHz | QFN-32, SSOP-28 | 2 | 2 | | ✓ | PLL | ✓ | R_{SEN} | I |
| LTC3811 | 4.5 to 30 | 0.6 to 3.3 | 25/25 | 10.5mA | 250kHz to 750kHz | QFN-38, SSOP-36 | 2 | 12 | ✓ | ✓ | PLL | ✓ | R_{SEN} or DCR | I |

Notes: (1) The maximum output current depends on the choice of external components
 (2) The operating frequency can be selected within the range indicated

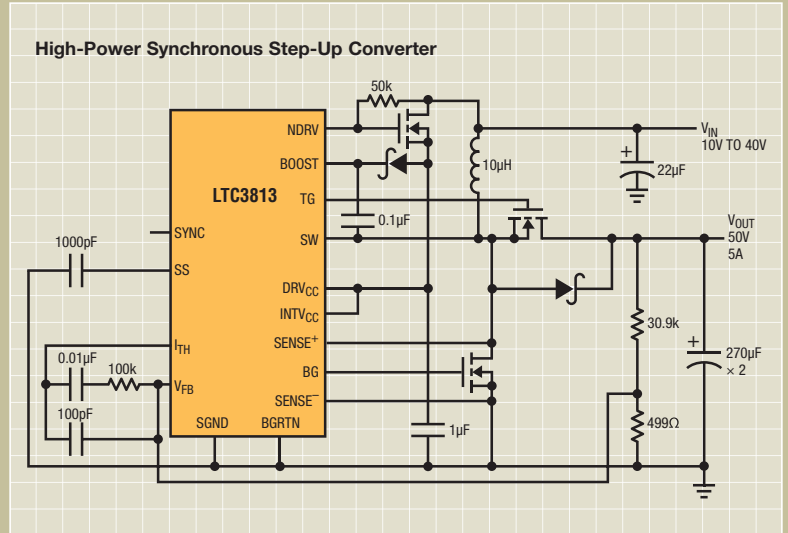
Additional Features: (A) All parts have a shut-down (run) pin and a power good signal
 (B) All parts are synchronous controllers, except the LT3742
 (C) All parts have programmable Soft-Start except the LTC3736

Step-Up (Boost) DC/DC Controllers

Linear Technology offers both synchronous and non-synchronous step-up controllers. Features include optional sense resistor, on-board LDO, 2-phase operation, high power gate driver, programmable fixed switching frequency and low quiescent current. Efficiencies up to 97% can be achieved with synchronous operation.



LTC3872 Demonstration Board



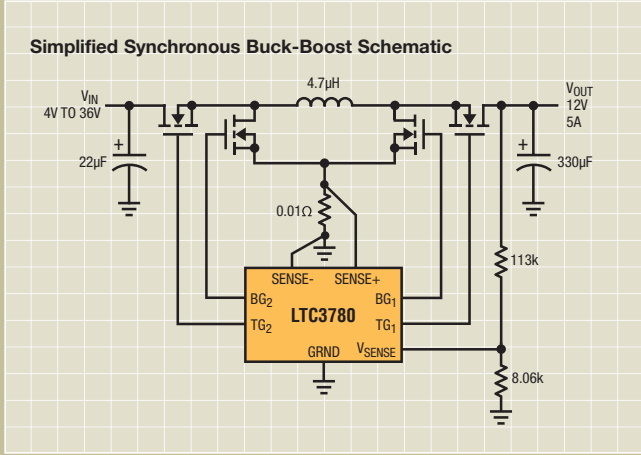
| Part Number | V_{IN} Range (V) | $V_{OUT}^{(1)}$ Range (V) | $I_{OUT}^{(1)}$ Max (A) | Operating Frequency ⁽²⁾ | Package | Description |
|---------------|------------------------------|--------------------------------------|-------------------------|------------------------------------|------------------|--|
| LTC3872 | 2.75 to 9.8 | Up to 60V w/o R_{SENSE} and Higher | 5 | 550kHz | ThinSOT or DFN-8 | No R_{SENSE} , Pulse Skipping at Light Load |
| LTC1871/-1/-7 | 2.5 to 36 | 3.3 and Higher | 5 | 50kHz to 1MHz | MSOP-10 | No R_{SENSE} , Burst Mode Operation |
| LTC1872 | 2.5 to 9.8 | 3.3 and Higher | 5 | 550kHz | SOT-23 | Burst Mode [®] Operation |
| LTC1700 | 0.9 to 5 | 1.5 to 6 | 5 | 400kHz to 750kHz | MSOP-10 | No R_{SENSE} Synchronous Rectification |
| LT3724 | 7.5 to 60 | 9 and Higher | 5 | 200kHz | TSSOP-16 | High Voltage with Burst Mode Operation |
| LTC3803/-3/-5 | 4.8/8.7 to 75 ⁽¹⁾ | 10 and Higher | 5 | 200kHz or 300kHz | ThinSOT | Small Package, Constant Frequency |
| LTC3805/-5 | 4.7/8.4 to 75 ⁽¹⁾ | 10 and Higher | 5 | 70kHz to 700kHz | MSOP-10, DFN-10 | Programmable Soft-Start |
| LTC3873/-5 | 4.1/8.4 to 75 ⁽¹⁾ | Up to 60V w/o R_{SENSE} and Higher | 5 | 200kHz | ThinSOT, DFN-8 | No R_{SENSE} |
| LT3750 | 3 to 24 | 5 and Higher | 5 | 100kHz to 300kHz | MSOP-10 | Very High Output Voltages |
| LT1619 | 1.9 to 18 | 3.3 and Higher | 10 | 300kHz to 550kHz | MSOP-8, SO-8 | Synchronizable |
| LTC1624 | 3.5 to 36 | 5 and Higher | 10 | 200kHz | SO-8 | Wide Input Voltage Range |
| LTC3703/-5 | 4.1 to 60/100 | 5 to 60/100 | 10 | 100kHz to 600kHz | SSOP-16, SSOP-28 | No R_{SENSE} , Synchronous Rectification |
| LT3844 | 4 to 60 | 5 and Higher | 10 | 100kHz to 600kHz | TSSOP-16E | Programmable and Synchronizable Frequency |
| LTC3814-5 | 4.5 to 0.9 V_{OUT} | 8 to 60 | 10 | 100kHz to 1MHz | TSSOP-16 | No R_{SENSE} , Synchronous Rectification, 1 ohm Gate Drive |
| LTC3813 | 7 to 0.9 V_{OUT} | 8 to 100 | 10 | 100kHz to 1MHz | SSOP-28 | No R_{SENSE} , Synchronous Rectification, 1 ohm Gate Drive |
| LT3782 | 6 to 40 | 7 and Higher | 30 | 150kHz to 500kHz | SSOP-28 | High Power, 2-Phase Operation |

Note (1) The maximum voltage and current depend on the choice of external components

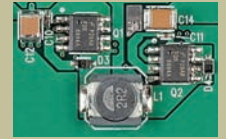
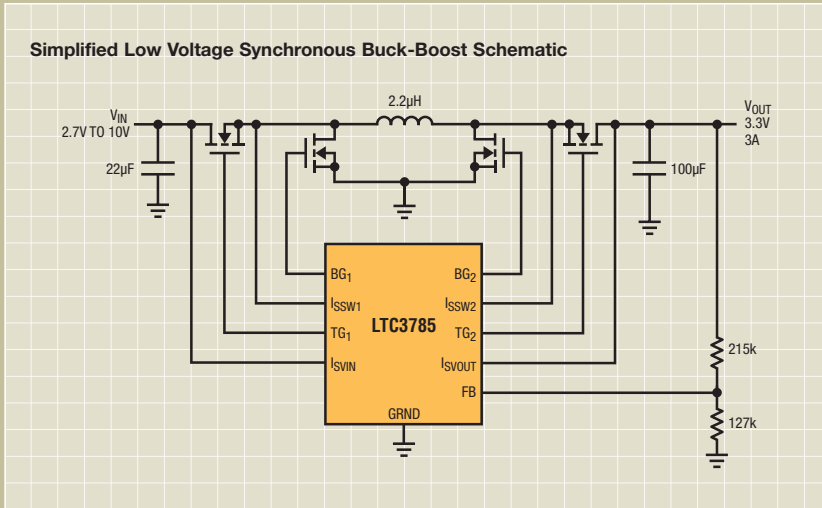
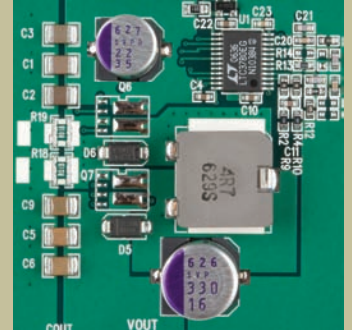
(2) The frequency can be selected within the range indicated

Synchronous Buck-Boost DC/DC Controllers

High performance 4-switch synchronous buck-boost controllers operate from an input voltage that is above, below or equal to the output voltage. These controllers utilize a single inductor and can deliver efficiencies up to 98%.



LTC3780 Demonstration Board



LTC3785 Demonstration Board

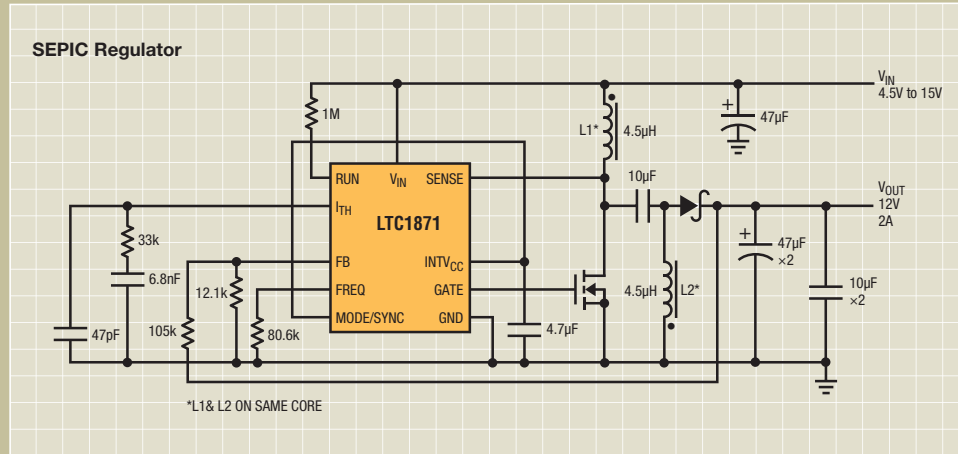
| Part Number | V_{IN} Range (V) | V_{OUT} Range (V) | $I_{OUT}^{(1)}$ Max (A) | Operating Frequency ⁽²⁾ | Package | No R_{SENSE} | Synchronizable | Current (I) or Voltage (V) Mode Control |
|-------------|--------------------|---------------------|-------------------------|------------------------------------|-----------------|----------------|----------------|---|
| LTC3780 | 4 to 36 | 0.8 to 30 | 10 | 200kHz to 400kHz | QFN-32, SSOP-24 | | PLL | I |
| LTC3785 | 2.7 to 10 | 2.7 to 10 | 10 | 100kHz to 1MHz | QFN-24 | √ | | V |

Note (1) The maximum output current depends on the choice of external components

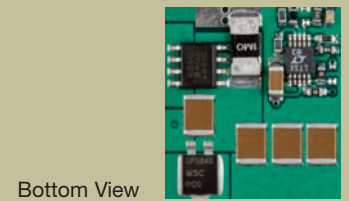
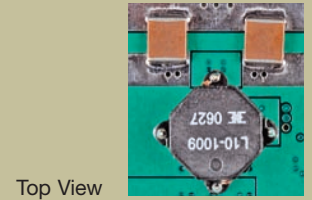
(2) The operating frequency can be selected within the range indicated

SEPIC DC/DC Controllers

SEPIC converters operate from an input voltage that is above, below or equal to the output voltage and provide output short circuit protection. The SEPIC provides a simpler solution compared to synchronous buck-boost controllers, but has lower efficiency, power density and maximum output current. All of Linear's boost controllers can be designed into a SEPIC converter. A select list of parts is shown below.



LTC1871 Demonstration Board



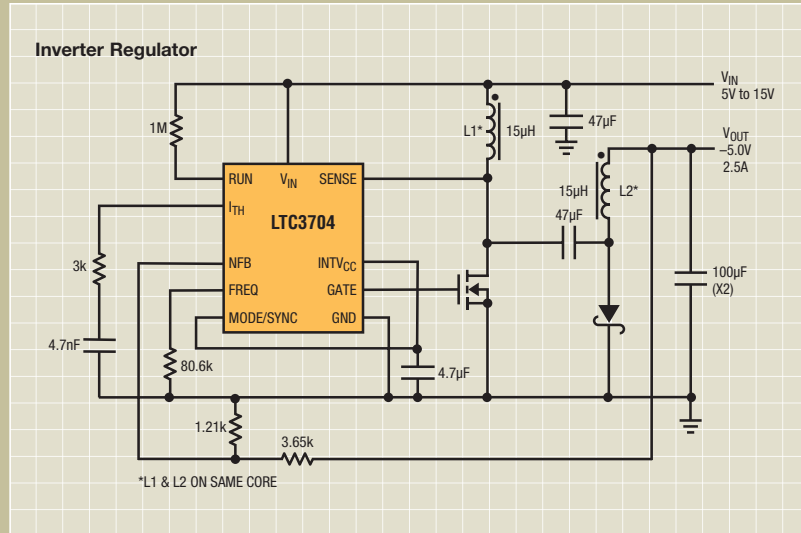
| Part Number | V_{IN} Range (V) | $V_{OUT}^{(1)}$ Range (V) | Output Current ⁽¹⁾ (A) | Operating Frequency ⁽²⁾ | No R_{SENSE} | I_o | Shut-Down Current | Package |
|-------------|--------------------------|---------------------------|-----------------------------------|------------------------------------|----------------|-------|-------------------|-----------------|
| LTC1871/-1 | 2.5 to 36 | 1.23 to 52 | 3 | 50kHz to 1MHz | √ | 550µA | <20µA | MSOP-10 |
| LTC1871-7 | 6 to 36 | 1.23 to 52 | 3 | 50kHz to 1MHz | √ | 550µA | <20µA | MSOP-10 |
| LTC3872 | 2.75 to 9.8 | 1.20 to 52 | 3 | 550kHz | √ | 250µA | <20µA | ThinSOT, DFN-8 |
| LT1619 | 1.9 to 18 | 1.24 to 52 | 3 | 300kHz to 550kHz | | 9mA | <40µA | MSOP-8, SO-8 |
| LTC1624 | 3.5 to 36 | 1.19 to 52 | 3 | 200kHz | | 550µA | <30µA | SO-8 |
| LT3844 | 4 to 60 | 1.23 to 52 | 3 | 100kHz to 600kHz | | 120µA | <15µA | TSSOP-16 |
| LT3724 | 7.4 to 60 | 1.23 to 52 | 3 | 200kHz | | 80µA | <15µA | TSSOP-16 |
| LTC3803/-3 | 8.7 to 75 ⁽¹⁾ | 0.8 to 52 | 3 | 200kHz or 300kHz | | 240µA | <10µA | ThinSOT |
| LTC3803-5 | 4.8 to 75 ⁽¹⁾ | 0.8 to 52 | 3 | 200kHz | | 240µA | <10µA | ThinSOT |
| LTC3805 | 8.4 to 75 ⁽¹⁾ | 0.8 to 52 | 3 | 70kHz to 700kHz | | 360µA | <40µA | DFN-10, MSOP-10 |
| LTC3805-5 | 4.5 to 75 ⁽¹⁾ | 0.8 to 52 | 3 | 70kHz to 700kHz | | 360µA | <40µA | DFN-10, MSOP-10 |
| LTC3873 | 8.4 to 75 ⁽¹⁾ | 1.20 to 52 | 3 | 200kHz | | 300µA | <100µA | ThinSOT, DFN-8 |
| LTC3873-5 | 4.1 to 75 ⁽¹⁾ | 1.20 to 52 | 3 | 200kHz | | 300µA | <80µA | ThinSOT, DFN-8 |
| LT1950 | 3 to 75 ⁽¹⁾ | 1.23 to 52 | 3 | 100kHz to 500kHz | | 2.3mA | <20µA | SSOP-16 |
| LT1952/-1 | 8 to 75 ⁽¹⁾ | 1.23 to 52 | 3 | 100kHz to 500kHz | | 5.2mA | <240µA | SSOP-16 |

Note (1) The maximum voltage and current depend on the choice of external components. For higher output voltages contact Linear Technology.

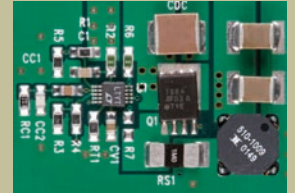
(2) The frequency can be selected within the range indicated

Inverter DC/DC Controllers

Inverting DC/DC controllers convert a positive input voltage to a negative output. Features include optional sense resistor, current mode control, integrated MOSFET driver, undervoltage lockout, selectable operating frequency, low quiescent current and wide input voltage range.



LTC3704
Demonstration Board

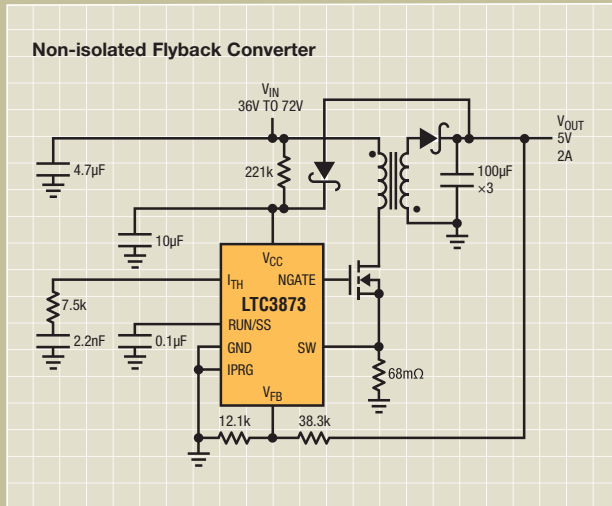


| Part Number | V _{IN} Range (V) | V _{OUT} ⁽¹⁾ Range (V) | I _{OUT} ⁽¹⁾ MAX (A) | Operating Frequency ⁽²⁾ | I _q | Package |
|-------------|---------------------------|---|---|------------------------------------|----------------|-----------------|
| LTC3704 | 2.5 to 36 | -1.23 to -52 | 5 | 50kHz to 1MHz | 550µA | MSOP-10 |
| LT1619 | 1.9 to 18 | -1.24 to -52 | 5 | 300kHz to 550kHz | 140µA | MSOP-8, SO-8 |
| LTC1624 | 3.5 to 36 | -1.19 to -52 | 5 | 200kHz | 550µA | SO-8 |
| LTC1625 | 3.7 to 36 | -1.19 to -52 | 5 | 150kHz | 500µA | SSOP-16 |
| LTC3803/-3 | 8.7 to 75 ⁽¹⁾ | -0.8 to -52 | 5 | 200kHz or 300kHz | 240µA | ThinSOT |
| LTC3803-5 | 4.8 to 75 ⁽¹⁾ | -0.8 to -52 | 5 | 200kHz | 240µA | ThinSOT |
| LTC3805 | 8.4 to 75 ⁽¹⁾ | -0.8 to -52 | 5 | 70kHz to 700kHz | 360µA | DFN-10, MSOP-10 |
| LTC3805-5 | 4.5 to 75 ⁽¹⁾ | -0.8 to -52 | 5 | 70kHz to 700kHz | 360µA | DFN-10, MSOP-10 |
| LTC1871/-1 | 2.5 to 36 | -1.23 to -52 | 5 | 50kHz to 1MHz | 550µA | MSOP-10 |
| LT3724 | 4 to 60 | -1.23 to -52 | 10 | 200kHz | 100µA | TSSOP-16E |
| LT3800 | 4 to 60 | -1.23 to -52 | 10 | 200kHz | 80µA | TSSOP-16E |
| LT3844 | 4 to 60 | -1.23 to -52 | 10 | 100kHz to 600kHz | 120µA | TSSOP-16E |
| LTC1778 | 4 to 36 | -0.8 to -52 | 10 | Constant On-Time | 900µA | SSOP-16 |
| LT1952/-1 | 8 to 75 ⁽¹⁾ | -2.5 to -52 | 10 | 100kHz to 500kHz | 5.2mA | SSOP-16 |
| LT3845 | 4 to 60 | -1.23 to -52 | 10 | 100kHz to 600kHz | 120µA | TSSOP-16 |

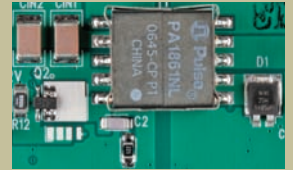
Note (1) The maximum voltage and current depend on the choice of external components. For higher output voltages contact Linear Technology.
 (2) The frequency can be selected within the range indicated

Flyback DC/DC Controllers

Synchronous and non-synchronous flyback controllers are shown for isolated and non-isolated DC/DC converters. This family of current mode controllers can regulate the output voltage directly, through an opto-coupler or an integrated primary-side transformer winding.



LTC3873
Demonstration Board



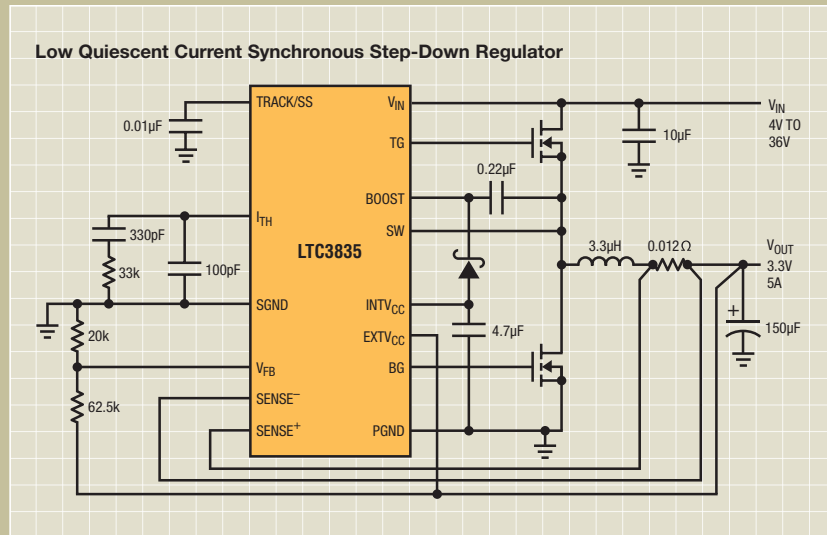
| Part Number | V_{IN} Range (V) | $V_{OUT}^{(1)}$ Min (V) | Output Current ⁽¹⁾ (A) | Synchronous Operation | Operating Frequency ⁽²⁾ | I_o | Package |
|-------------|--------------------------|-------------------------|-----------------------------------|-----------------------|------------------------------------|-------|-----------------|
| LT1619 | 1.9 to 18 | 1.24 | 3 | | 300kHz to 550kHz | 9mA | MSOP-8, SO-8 |
| LTC3803/-3 | 8.7 to 75 ⁽¹⁾ | 0.8 | 3 | | 200kHz or 300kHz | 240µA | ThinSOT |
| LTC3803-5 | 4.8 to 75 ⁽¹⁾ | 0.8 | 3 | | 200kHz | 240µA | ThinSOT |
| LTC3805 | 8.4 to 75 ⁽¹⁾ | 0.8 | 3 | | 70kHz to 700kHz | 360µA | DFN-10, MSOP-10 |
| LTC3805-5 | 4.5 to 75 ⁽¹⁾ | 0.8 | 3 | | 70kHz to 700kHz | 360µA | DFN-10, MSOP-10 |
| LTC3873 | 8.4 to 75 ⁽¹⁾ | 1.2 | 3 | | 200kHz | 360µA | ThinSOT, DFN-8 |
| LTC3873-5 | 4.1 to 75 ⁽¹⁾ | 1.2 | 3 | | 200kHz | 360µA | ThinSOT, DFN-8 |
| LTC1871 | 2.5 to 75 ⁽¹⁾ | 1.23 | 5 | | 50kHz to 1MHz | 250µA | MSOP-10 |
| LT1725 | 16 to 75 ⁽¹⁾ | 1.25 | 5 | | 50kHz to 250kHz | 10mA | SO-16, SSOP-16 |
| LT1737 | 4.5 to 75 ⁽¹⁾ | 1.23 | 5 | | 50kHz to 250kHz | 10mA | SO-16, SSOP-16 |
| LTC3806 | 10 to 75 ⁽¹⁾ | 1.23 | 5 | √ | 250kHz | 1mA | DFN-12 |
| LT3837 | 4.5 to 75 ⁽¹⁾ | 1.23 | 12 | √ | 50kHz to 250kHz | 6.4mA | TSSOP-16 |
| LT3825 | 16 to 75 ⁽¹⁾ | 1.23 | 12 | √ | 50kHz to 250kHz | 6.4mA | TSSOP-16 |

Note (1) The maximum voltage and current depend on the choice of external components

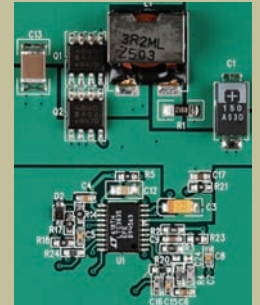
(2) The frequency can be selected within the range indicated

MicroPower DC/DC Controllers

MicroPower controllers have a very low quiescent current which creates an extremely efficient DC/DC converter at no load or light load conditions. The parts listed below utilize Burst Mode® operation and/or pulse skipping to reduce light load power consumption and significantly help preserve battery life during standby or idle mode.



LTC3835
Demonstration Board

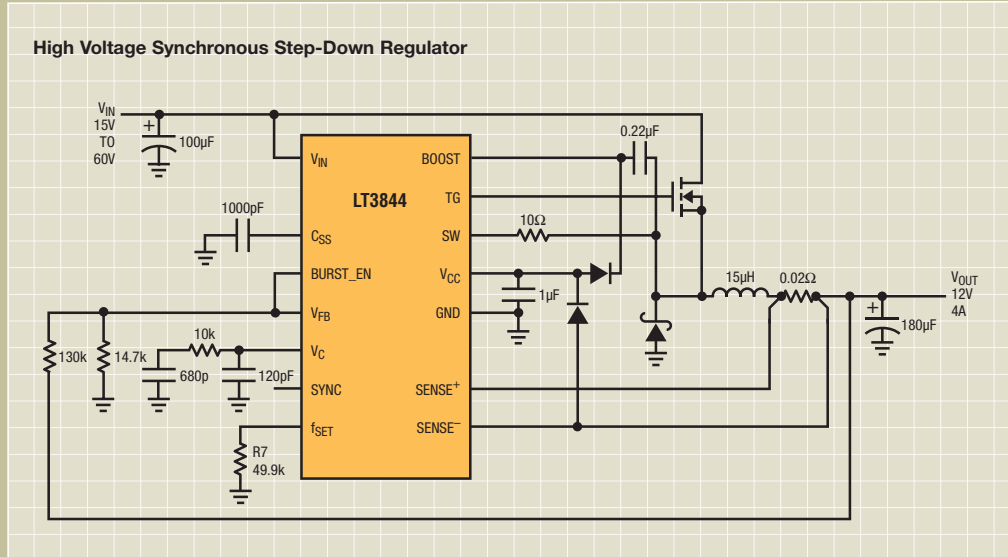


| Part Number | V _{IN} Range (V) | V _{OUT} Range (V) | I _{OUT} Max ⁽¹⁾ (A) | Synchronous Operation | Dual Output | Operating Frequency ⁽²⁾ | No R _{SENSE} | I _Q | Package | Topology |
|-------------|---------------------------|----------------------------|---|-----------------------|-------------|------------------------------------|-----------------------|----------------|------------------|-------------------------------------|
| LTC1771 | 2.8 to 20 | 1.23 to 18 | 5 | | | Constant Off-Time | | 10µA | MSOP-8, SO-8 | Step-Down |
| LTC3801 | 2.5 to 9.8 | 0.8 to V _{IN} | 5 | | | 550kHz | | 16µA | ThinSOT | Step-Down |
| LTC3834 | 4 to 36 | 0.8 to 10 | 20 | √ | | 140kHz to 650kHz | | 30µA | DFN-16, SSOP-16 | Step-Down |
| LTC3834-1 | 4 to 36 | 0.8 to 10 | 20 | √ | | 140kHz to 650kHz | | 30µA | QFN-20, TSSOP-20 | Step-Down |
| LTC3826/-1 | 4 to 36 | 0.8 to 10 | 20/20 | √ | √ | 140kHz to 650kHz | | 30µA | QFN-32/SSOP-28 | Step-Down |
| LTC3772 | 2.75 to 9.8 | 0.8 to V _{IN} | 5 | | | 550kHz | √ | 40µA | DFN-8, ThinSOT | Step-Down |
| LTC3824 | 4 to 60 | 0.8 to V _{IN} | 5 | | | 200kHz to 600kHz | | 40µA | MSOP-10E | Step-Down |
| LTC1773 | 2.65 to 8.5 | 0.8 to V _{IN} | 6 | √ | | 500kHz to 750kHz | | 80µA | MSOP-10 | Step-Down |
| LTC3835 | 4 to 36 | 0.8 to 10 | 20 | √ | | 140kHz to 650kHz | | 80µA | DFN-16, SSOP-16 | Step-Down |
| LTC3835-1 | 4 to 36 | 0.8 to 10 | 20 | √ | | 140kHz to 650kHz | | 80µA | QFN-20, TSSOP-20 | Step-Down |
| LTC3827/-1 | 4 to 36 | 0.8 to 10 | 20/20 | √ | √ | 140kHz to 650kHz | | 80µA | QFN-32/SSOP-28 | Step-Down |
| LTC3785 | 2.7 to 10 | 2.7 to 10 | 10 | √ | | 100kHz to 1MHz | √ | 86µA | QFN-24 | Buck-Boost |
| LT3724 | 4 to 60 | 1.23 to 36 | 5 | | | 200kHz | | 100µA | TSSOP-16 | Step-Down, Step-Up, SEPIC, Inverter |
| LT3800 | 4 to 60 | 1.23 to 36 | 20 | √ | | 200kHz | | 100µA | TSSOP-16 | Buck, Inverter |
| LTC3808 | 2.75 to 9.8 | 0.6 to V _{IN} | 5 | √ | | 250kHz to 750kHz | √ | 105µA | DFN-14, SSOP-16 | Step-Down |
| LTC3809 | 2.75 to 9.8 | 0.6 to V _{IN} | 5 | √ | | 250kHz to 750kHz | √ | 105µA | DFN-10, MSOP-10E | Step-Down |
| LTC3809-1 | 2.75 to 9.8 | 0.6 to V _{IN} | 5 | √ | | 550kHz | | 105µA | DFN-10, MSOP-10E | Step-Down |
| LT3844 | 4 to 60 | 1.23 to 36 | 5 | | | 100kHz to 600kHz | | 120µA | TSSOP-16 | Step-Down, Step-Up, SEPIC, Inverter |
| LT3845 | 4 to 60 | 1.23 to 36 | 20 | √ | | 100kHz to 600kHz | | 120µA | TSSOP-16 | Step-Down |

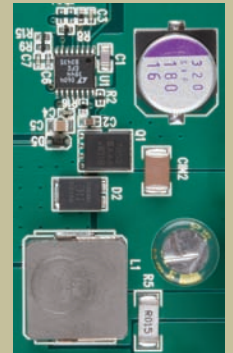
Note (1) The maximum output current depends on the choice of external components
 (2) The frequency can be selected within the range indicated

Multiple Topology DC/DC Controllers

Linear offers DC/DC controllers that can be used in multiple converter topologies including buck, boost, flyback, forward, inverter and SEPIC. Features include a wide input voltage range, low quiescent current, selectable operating frequency, optional sense resistor and on-board MOSFET gate driver.



LT3844
Demonstration Board

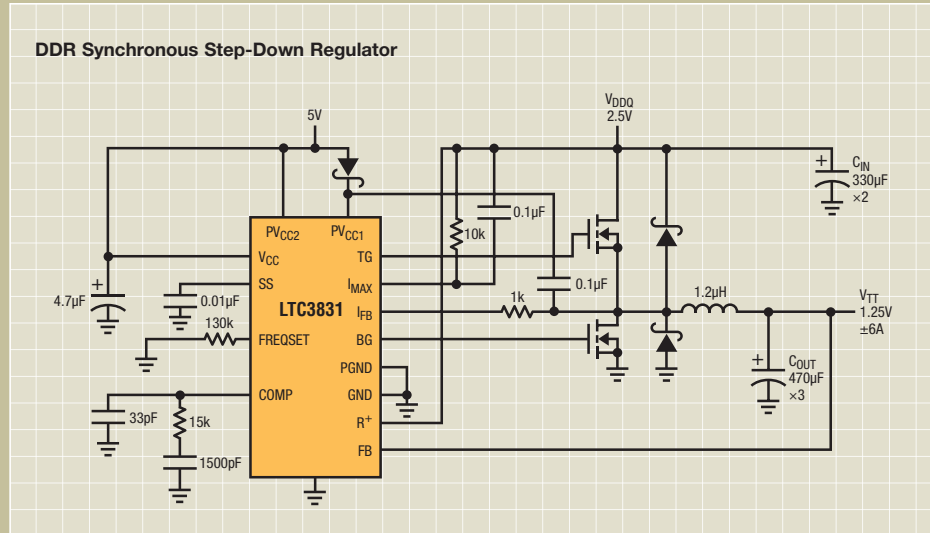


| Part Number | V _{IN} Range (V) | V _{REF} (V) | I _Q | Operating Frequency ⁽²⁾ | Package | No R _{SENSE} | Buck | Boost | Flyback | Forward | Inverter | SEPIC |
|-------------|---------------------------|----------------------|----------------|------------------------------------|------------------|-----------------------|------|-------|---------|---------|----------|-------|
| LT1619 | 1.9 to 18 | 1.24 | 140µA | 300kHz to 550kHz | MSOP-8, SO-8 | | | √ | √ | | √ | √ |
| LT1950 | 3 to 25 | 1.23 | 2.3mA | 100kHz to 500kHz | SSOP-16 | | | √ | √ | √ | | √ |
| LTC1871-7 | 6 to 36 | 1.23 | 250µA | 50kHz to 1MHz | MSOP-10 | √ | | √ | √ | | | √ |
| LTC1871/-1 | 2.5 to 36 | 1.23 | 250µA | 50kHz to 1MHz | MSOP-10 | √ | | √ | √ | | | √ |
| LTC1624 | 3.5 to 36 | 1.19 | 550µA | 200kHz | SO-8 | | √ | √ | | | √ | √ |
| LTC1625 | 3.7 to 36 | 1.19 | 500µA | 150kHz | SSOP-16 | √ | √ | | | | √ | √ |
| LTC3851 | 4 to 40 | 0.8 | 1mA | 250kHz to 750kHz | QFN-16/SSOP-16 | √ | √ | | √ | | | |
| LT3724 | 7.5 to 60 | 1.23 | 80µA | 200kHz | TSSOP-16 | | √ | √ | | | √ | √ |
| LTC3703/-5 | 4.1 to 60/100 | 0.8 | 1.7mA | 100kHz to 600kHz | SSOP-16, SSOP-28 | | √ | √ | | | | |
| LT3844 | 4 to 60 | 1.23 | 120µA | 100kHz to 600kHz | TSSOP-16E | | √ | √ | | | √ | √ |
| LTC3803/-3 | 8.7 to 75 ⁽¹⁾ | 0.8 | 240µA | 200kHz | ThinSOT | | | √ | √ | | √ | √ |
| LTC3803-5 | 4.8 to 75 ⁽¹⁾ | 0.8 | 240µA | 200kHz | ThinSOT | | | √ | √ | | √ | √ |
| LTC3805 | 8.4 to 75 ⁽¹⁾ | 0.8 | 360µA | 70kHz to 700kHz | DFN-10, MSOP-10 | | | √ | √ | | √ | √ |
| LTC3805-5 | 4.5 to 75 ⁽¹⁾ | 0.8 | 360µA | 70kHz to 700kHz | DFN-10, MSOP-10 | | | √ | √ | | √ | √ |
| LTC3873 | 8.4 to 75 ⁽¹⁾ | 1.2 | 360µA | 200kHz | ThinSOT, DFN-8 | | | √ | √ | | √ | √ |
| LTC3873-5 | 4.1 to 75 ⁽¹⁾ | 1.2 | 360µA | 200kHz | ThinSOT, DFN-8 | | | √ | √ | | √ | √ |
| LT1952/-1 | 8 to 75 ⁽¹⁾ | 1.23 | 5.2mA | 100kHz to 500kHz | SSOP-16 | | | √ | | √ | √ | √ |

Note (1) The maximum voltage depends on the choice of external components
 (2) The frequency can be selected within the range indicated

DDR/QDR Memory Termination DC/DC Controllers

DDR (Double Data Rate)/QDR (Quad Data Rate) termination applications require that V_{OUT2} (V_{TT}) is always 1/2 of V_{REF} (which is usually V_{OUT1} or V_{DDQ}). Features include dual or single outputs, on-board MOSFET drivers, synchronous rectification, low quiescent current, tracking, tight V_{REF} accuracy, current mode or voltage mode control, spread spectrum and optional current sense resistors.

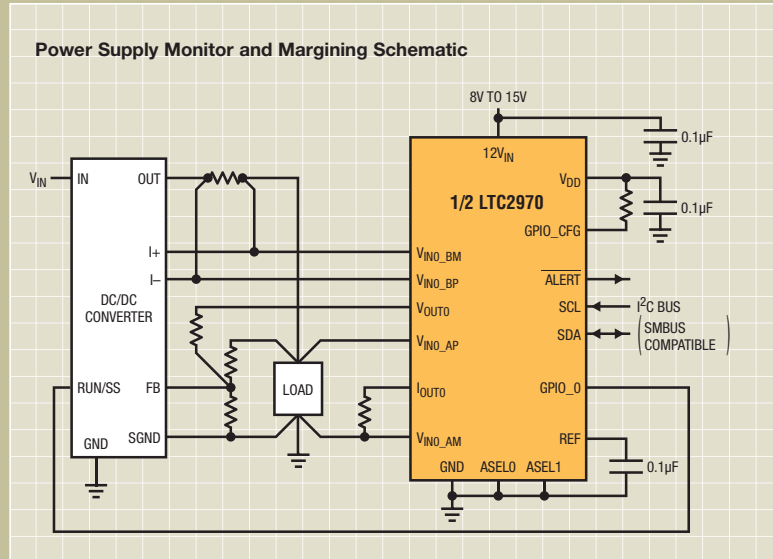


| Part Number | V_{IN} Range (V) | V_{OUT} Range (V) | $I_{OUT}^{(1)}$ MAX (A) | I_Q | Operating Frequency ⁽²⁾ | Package | Dual Output | Spread Spectrum | No R_{SENSE} | Tracking | Synchronizable | EXTV _{CC} | Current (I) or Voltage (V) Mode |
|-------------|--------------------|----------------------|-------------------------|--------|------------------------------------|-----------------|-------------|-----------------|----------------|----------|----------------|--------------------|---------------------------------|
| LTC3776 | 2.75 to 9.8 | 0.6 to V_{IN} | 6/6 | 575µA | 300kHz to 750kHz | QFN-24, SSOP-24 | √ | √ | √ | √ | PLL | I | I |
| LTC3831 | 3 to 8 | 1.25 to $0.91V_{IN}$ | 15 | 14.7mA | 100kHz to 500kHz | SSOP-16 | | | √ | | √ | | V |
| LTC3831-1 | 3 to 8 | 0.4 to $0.91V_{IN}$ | 15 | 20.7mA | 100kHz to 500kHz | SSOP-16 | | | √ | | √ | | V |
| LTC3718 | 1.5 to 36 | 0.7 to $V_{IN}/2$ | 20 | 1mA | 200kHz to 1.5MHz | SSOP-24 | | √ | | | | | I |
| LTC3717 | 4 to 36 | 0.7 to $V_{IN}/2$ | 20 | 1mA | 200kHz to 1.5MHz | SSOP-16 | | √ | | | √ | | I |
| LTC3717-1 | 4 to 36 | 0.7 to $V_{IN}/2$ | 20 | 1mA | 200kHz to 1.5MHz | QFN-32 | | √ | | | √ | | I |

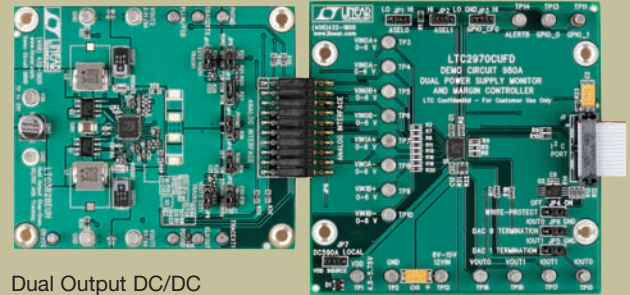
Notes: (1) The maximum output current depends on the choice of external components
 (2) The operating frequency can be selected within the range indicated
 Additional Features: (1) All parts have synchronous rectification & use the MOSFET $R_{DS(ON)}$ for current sense

Power Supply Monitor, Margining and Hot Swap

The LTC2970 is a dual power supply monitor and margining controller with an SMBus compatible I²C interface. A low drift, on-chip reference and 14-bit A/D converter allow precise measurements of supply voltages, load currents and internal die temperature. Also included are Hot Swap controllers with I²C bus reporting capability.



LTC2970
Demonstration Board



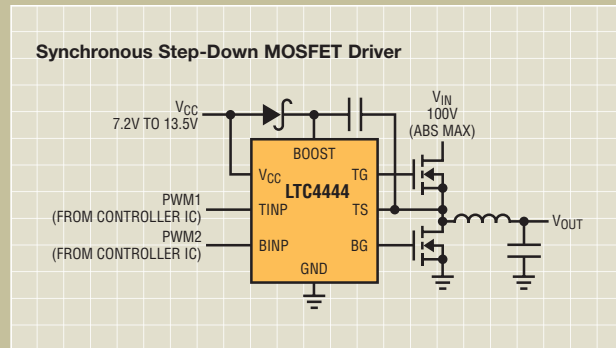
Dual Output DC/DC
Converter

Monitoring and Margining
Circuit

| Part Number | V _{IN} Range (V) | Monitored Supply Range | Number of Monitored Supplies | Function | ADC Resolution | Number of ADC Channels | DAC Resolution | Number of DAC Channels | Package | Features |
|-------------|---------------------------|------------------------|------------------------------|---------------------|----------------|------------------------|----------------|------------------------|------------------------|--|
| LTC2970 | 5 to 12 | up to 5V | 2 | V/I & Temp | 14-bit | 4 differential | 8-bit | 2 | QFN-24 | I ² C, Automatic Servo Logic, Temp Sensor |
| LTC4215 | 2.9 to 16.5 | up to 16.5V | 1 | Hot Swap Controller | 8-bit | 3 | n/a | n/a | QFN-24, TSSOP-16 | I ² C, Current and Voltage Monitor |
| LTC4260 | 8.5 to 80 | up to 80V | 1 | Hot Swap Controller | 8-bit | 3 | n/a | n/a | QFN-32, SSOP-24, SO-24 | I ² C, Current and Voltage Monitor |
| LTC4261 | -100 to -12 | down to -100V | 1 | Hot Swap Controller | 10-bit | 3 | n/a | n/a | QFN-24, SSOP-28 | I ² C, Current and Voltage Monitor |

High Speed MOSFET Drivers

Linear Technology offers several types of high speed MOSFET drivers with features that include synchronous rectification, low-side and high-side driving, single or dual outputs, inverting or non-inverting and high voltage applications.



| Part Number | V _{CC} Input Voltage Range (V) | Maximum V _{IN} Supply Voltage (V) | Maximum Output Current/ Impedance Source/Sink | I _Q | Package | Description |
|-------------|---|--|---|----------------|------------------|---|
| LTC1693-1 | 4.5 to 13.2 | 14 | 1.4A/1.7A | 730μA | SO-8 | Dual N-Channel Both Non-Inverting |
| LTC1693-2 | 4.5 to 13.2 | 14 | 1.4A/1.7A | 730μA | SO-8 | Dual N-Channel 1 Non-Inverting, 1 Inverting |
| LTC1693-3 | 4.5 to 13.2 | 14 | 1.4A/1.7A | 730μA | MSOP-8 | Single with Output Polarity Select |
| LTC1693-5 | 4.5 to 13.2 | 14 | 1.4A/1.7A | 360μA | MSOP-8 | Single P-Channel Driver |
| LTC4441/-1 | 5 to 8 | 28 | 6A/6A | 250μA | MSOP-10, SO-8 | Low Side Driver |
| LTC4440 | 7.3 to 15 | 80, 100pk | 2.4A/1.5Ω | 250μA | MSOP-10, SO-8 | High Side, High Voltage |
| LTC4440-5 | 3.65 to 15 | 60, 80pk | 1.1A/1.85Ω | 200μA | MSOP-8E, ThinSOT | High Side, High Voltage |
| LTC3900 | 4.5 to 11 | 12 | 2A/2A | 500μA | SO-8 | Synchronous Driver for Foward Converters |
| LTC3901 | 4.5 to 11 | 12 | 2A/2A | 500μA | SSOP-16 | Synchronous Driver for Push-Pull and Full-Bridge Converters |
| LTC4442/-1 | 6.2 to 9.5 | 38 | 2.4A/5A | 730μA | MSOP-8 | Synchronous Driver |
| LTC4443/-1 | 6.2 to 9.5 | 38 | 2.4A/5A | 730μA | DFN-12 | Synchronous Driver, with Integrated Schottky Diode |
| LTC4445/-1 | 6.2 to 9.5 | 38 | 2.4A/5A | 730μA | DFN-16 | Dual Synchronous Driver, with Integrated Schottky Diodes |
| LTC4447 | 4 to 6.5 | 38 | 4A/5A | 730μA | DFN-12 | Synchronous Driver, with Integrated Schottky Diode |
| LTC4444 | 7.2 to 13.5 | 100 | 2.5A/2.5A | 350μA | MSOP-8 | Synchronous High Voltage Driver |

Sales Offices

NORTH AMERICA

GREATER BAY AREA

Bay Area
720 Sycamore Dr.
Milpitas, CA 95035
Tel: (408) 428-2050
Fax: (408) 432-6331

Sacramento
2260 Douglas Blvd., Ste. 280
Roseville, CA 95661
Tel: (916) 787-5210
Fax: (916) 787-0110

PACIFIC NORTHWEST

Denver
7007 Winchester Cir., Ste. 130
Boulder, CO 80301
Tel: (303) 926-0002
Fax: (303) 530-1477

Portland
5005 SW Meadows Rd., Ste. 410
Lake Oswego, OR 97035
Tel: (503) 520-9930
Fax: (503) 520-9929

Salt Lake City
Tel: (801) 731-8008

Seattle
2018 156th Ave. NE, Ste. 100
Bellevue, WA 98007
Tel: (425) 748-5010
Fax: (425) 748-5009

SOUTHWEST AREA

Los Angeles
21243 Ventura Blvd., Ste. 238
Woodland Hills, CA 91364
Tel: (818) 703-0835
Fax: (818) 703-0517

Orange County
15375 Barranca Pkwy., Ste. A-213
Irvine, CA 92618
Tel: (949) 453-4650
Fax: (949) 453-4765

San Diego
5090 Shoreham Place, Ste. 110
San Diego, CA 92122
Tel: (858) 638-7131
Fax: (858) 638-7231

CENTRAL AREA

Chicago
2040 E. Algonquin Rd., Ste. 512
Schaumburg, IL 60173
Tel: (847) 925-0860
Fax: (847) 925-0878

Cleveland
7550 Lucerne Dr., Ste. 106
Middleburg Heights, OH 44130
Tel: (440) 239-0817
Fax: (440) 239-1466

Columbus
Tel: (614) 488-4466

Detroit
39111 West Six Mile Road
Livonia, MI 48152
Tel: (734) 779-1657
Fax: (734) 779-1658

Indiana
Tel: (317) 581-9055

Kansas
Tel: (913) 829-8844

Minneapolis
7805 Telegraph Rd., Ste. 225
Bloomington, MN 55438
Tel: (952) 903-0605
Fax: (952) 903-0640

Wisconsin
Tel: (262) 859-1900

NORTHEAST AREA

Boston
15 Research Place
North Chelmsford, MA 01863
Tel: (978) 656-4750
Fax: (978) 656-4760

Connecticut
Tel: (860) 228-4104

Philadelphia
3220 Tillman Dr., Ste. 120
Bensalem, PA 19020
Tel: (215) 638-9667
Fax: (215) 638-9764

SOUTHEAST AREA

Atlanta
Tel: (770) 888-8137

Austin
8500 N. Mopac, Ste. 603
Austin, TX 78759
Tel: (512) 795-8000
Fax: (512) 795-0491

Dallas
17000 Dallas Pkwy., Ste. 200
Dallas, TX 75248
Tel: (972) 733-3071
Fax: (972) 380-5138

Fort Lauderdale
Tel: (954) 473-1212

Houston
1080 W. Sam Houston Pkwy., Ste. 225
Houston, TX 77043
Tel: (713) 463-5001
Fax: (713) 463-5009

Huntsville
Tel: (256) 881-9850

Orlando
Tel: (407) 688-7616

Raleigh
15100 Weston Pkwy., Ste. 202
Cary, NC 27513
Tel: (919) 677-0066
Fax: (919) 678-0041

Tampa
Tel: (813) 634-9434

ASIA

AUSTRALIA / NEW ZEALAND

Linear Technology Corporation
133 Alexander Street
Crowns Nest NSW 2065
Australia
Tel: +61 (0)2 9432 7803
Fax: +61 (0)2 9439 2738

CHINA

Linear Technology Corp. Ltd.
Units 1503-04, Metroplaza Tower 2
223 Hing Fong Road
Kwai Fong, N.T., Hong Kong
Tel: +852 2428-0303
Fax: +852 2348-0885

Linear Technology Corp. Ltd.
Room 2701, City Gateway
No. 398 Cao Xi North Road
Shanghai, 200030, PRC
Tel: +86 (21) 6375-9478
Fax: +86 (21) 5465-5918

Linear Technology Corp. Ltd.
Room 816, 8/F
China Electronics Plaza B
No. 3 Dan Ling Rd., Hai Dian District
Beijing, 100080, PRC
Tel: +86 (10) 6801-1080
Fax: +86 (10) 6805-4030

Linear Technology Corp. Ltd.
Room 2604, 26/F
Excellence Times Square Building
4068 Yitian Road, Futian District
Shenzhen, 518048, PRC
Tel: +86 755-8236-6088
Fax: +86 755-8236-6008

JAPAN

Linear Technology KK
8F Shuwa Kioicho Park Bldg.
3-6 Kioicho Chiyoda-ku
Tokyo, 102-0094, Japan
Tel: +81 (3) 5226-7291
Fax: +81 (3) 5226-0268

Linear Technology KK
6F Kearny Place Honmachi Bldg.
1-6-13 Awaza, Nishi-ku
Osaka-shi, 550-0011, Japan
Tel: +81 (6) 6533-5880
Fax: +81 (6) 6543-2588

Linear Technology KK
7F, Sakuradori Ohtsu KT Bldg.
3-20-22 Marunouchi, Naka-ku Nagoya-shi,
460-0002, Japan
Tel: +81 (52) 955-0056
Fax: +81 (52) 955-0058

KOREA

Linear Technology Korea Co., Ltd.
Yundang Building, #1002
Samsung-Dong 144-23
Kangnam-Ku, Seoul
135-090 Korea
Tel: +82 (2) 792-1617
Fax: +82 (2) 792-1619

SINGAPORE

Linear Technology Pte. Ltd.
507 Yishun Industrial Park A
Singapore 768734
Tel: +65 6753-2692
Fax: +65 6752-0108

TAIWAN

Linear Technology Corporation
8F-1, 77, Nanking E. Rd., Sec. 3
Taipei, Taiwan
Tel: +886 (2) 2505-2622
Fax: +886 (2) 2516-0702

EUROPE

FINLAND

Linear Technology AB
Teknobulevardi 3-5
P.O. Box 35
FIN-01531 Vantaa
Finland
Tel: +358 (0)9 2517 8200
Fax: +358 (0)9 2517 8201

FRANCE

Linear Technology S.A.R.L.
Parc Tertiaire Silic
2 Rue de la Couture, BP10217
94518 Rungis Cedex
France
Tel: +33 (1) 56 70 19 90
Fax: +33 (1) 56 70 19 94

GERMANY

Linear Technology GmbH
Osterfeldstrasse 84, Haus C
D-85737 Ismaning
Germany
Tel: +49 (89) 962455-0
Fax: +49 (89) 963147

Linear Technology GmbH
Haselburger Damm 4
D-59387 Ascheberg
Germany
Tel: +49 (2593) 9516-0
Fax: +49 (2593) 951679

Linear Technology GmbH
Jesinger Strasse 65
D-73230 Kirchheim/Teck
Germany
Tel: +49 (0)7021 80770
Fax: +49 (0)7021 807720

ITALY

Linear Technology Italy Srl
Orione 3, C.D. Colleoni
Via Colleoni, 17
I-20041 Agrate Brianza (MI)
Italy
Tel: +39 039 596 5080
Fax: +39 039 596 5090

SWEDEN

Linear Technology AB
Electrum 204
Isafjordsgatan 22
SE-164 40 Kista
Sweden
Tel: +46 (8) 623 16 00
Fax: +46 (8) 623 16 50

UNITED KINGDOM

Linear Technology (UK) Ltd.
3 The Listons, Liston Road
Marlow, Buckinghamshire SL7 1FD
United Kingdom
Tel: +44 (1628) 477066
Fax: +44 (1628) 478153



Linear Technology Corporation

1630 McCarthy Blvd.

Milpitas, CA 95035-7417

1-800-4-LINEAR

408-432-1900

www.linear.com

LW100810KR