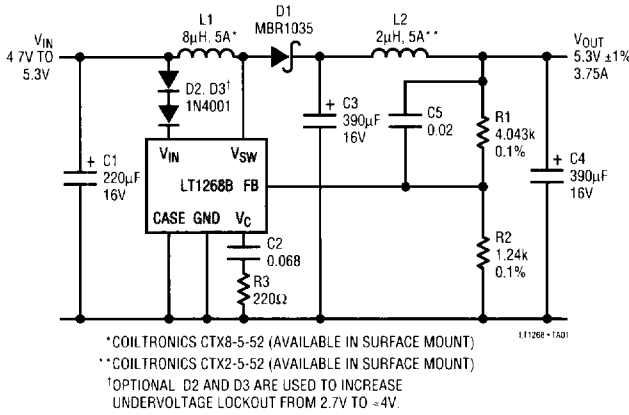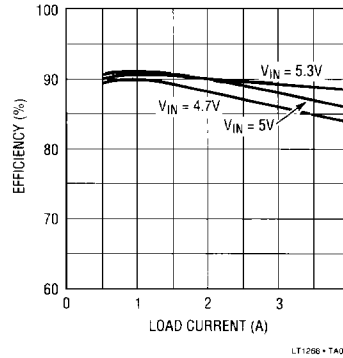# 5V to 5.3V Conversion with 1% Output Tolerance

The new, more powerful microprocessors are requiring more specific supply voltages than the industry standard 5V and 3.3V. Usually very tight output voltage regulation is required to run the processor at full speed. The LT1268B switching regulator is shown here as a 5V to 5.3V ±1% DC/DC converter capable of 3.75A supply current. The configuration is a boost converter operating at 150kHz switching frequency, enabling the use of a very small toroidal inductor (L1). An output filter stage is also included to reduce ripple voltage to less than 25mV. Efficiency is typically 86% and a heat sink is not required for ambient temperatures to 70°C.

The LT1268B has a switch with a minimum 7.5A current limit, and has an internal reference trimmed to provide ±1% maximum tolerance when using 0.1% feedback resistors. It is available in 5-lead TO-220 and surface mount DD packages.

Efficiency of 5.3V Boost Converter

*COILTRONICS CTX8-5-52 (AVAILABLE IN SURFACE MOUNT)
**COILTRONICS CTX2-5-52 (AVAILABLE IN SURFACE MOUNT)
†OPTIONAL D2 AND D3 ARE USED TO INCREASE UNDERVOLTAGE LOCKOUT FROM 2.7V TO ≈4V.

Low Cost Step-Up Switching Regulator Uses Small Inductors

Local on-board conversion from +5V to +12V for use in amplifier, signal conditioning or bus driver circuitry normally entails the use of a module or complex DC/DC converter design. The LT1269 100kHz PWM switching regulator can provide a minimum of 500mA at a regulated 12V in a convenient 20-lead surface mount small outline package. Included on the chip is a low on-resistance switch (0.33Ω) with a 4A current limit for high efficiency conversion in the boost converter shown here. The high frequency switching speed enables the use of small inductors and capacitors in this converter. The device can be placed in a micropower shutdown mode (100μA typical supply current) by activating a clamp on the V_C pin.

Other configurations include positive-to-negative and negative-to-positive converters. A surface mount DD package and TO-220 package are also available.

Boost Converter (5V to 12V)

* COILTRONICS CTX50-2-52
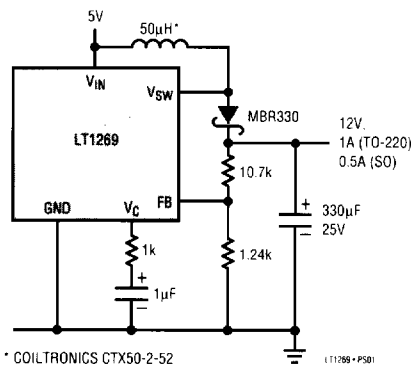
**Maximum Output Power
(TO-220 Package)**