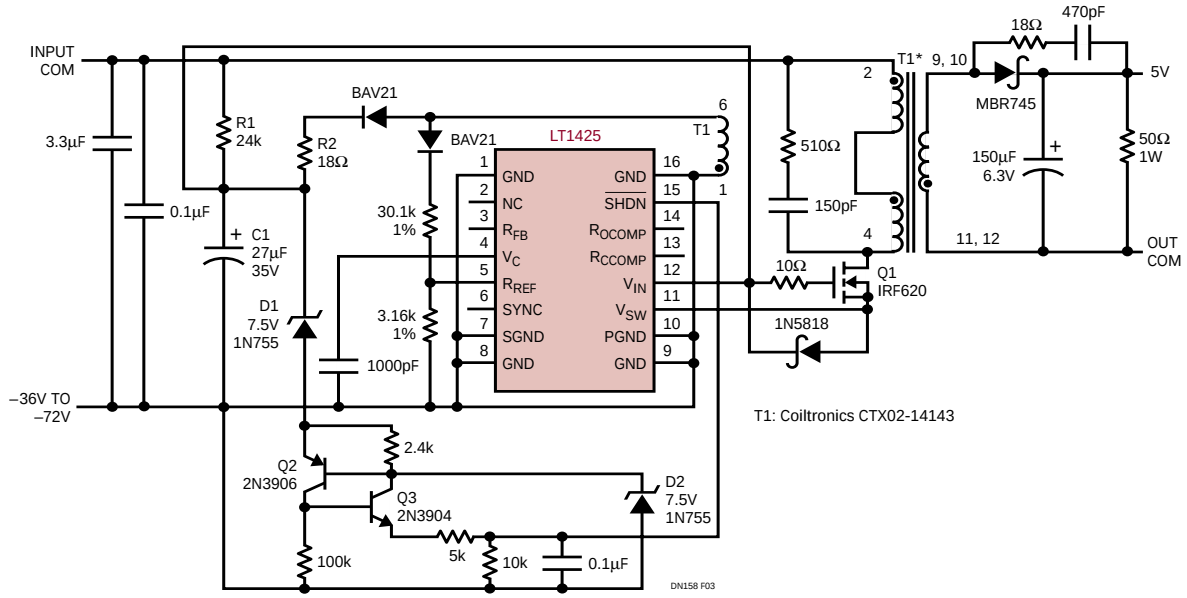
Isolated –48V to 5V DC/DC Converter

The LT1425 is designed for applications requiring well regulated, isolated voltages, such as isolation amplifiers, remote sensors and telecommunication interfaces. A unique feedback amplifier eliminates the need to cross the isolation barrier twice, resulting in a simpler, lower parts count supply. The LT1425, available in 16-pin SO, is a 275kHz current mode controller with an integral 1.5A switch, designed primarily to provide well regulated, isolated voltages from 3V to 20V sources.

In the figure below, an external cascoded 200V MOSFET is used to extend the LT1425's 35V maximum input voltage limit. The input voltage range (36V to 72V) also exceeds the LT1425's 20V maximum input voltage, so a bootstrap winding is used. D1, D2, Q2, Q3 and associated components form the necessary start-up circuitry with hysteresis. When C1 charges to 15V, switching begins and the bootstrap winding begins to supply power before C1 has a chance to discharge to 11V. Feedback voltage is fed directly through a resistor divider to the R_{REF} pin. The load compensation circuitry is bypassed, resulting in ±5% load regulation.

5V/2A Telecommunications Supply



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