

Description

The MIC2196 is a high efficiency PWM boost control IC housed in a SO-8 package. The MIC2196 is optimized for low input voltage applications. With its wide input voltage range of 2.9V to 14V, the MIC2196 can be used in boost, Sepic (single-ended primary inductive coupled), CUK and flyback topologies to efficiently generate voltages in the range of 3.3V to 12V.

The MIC2196 is ideal for space-sensitive applications. The device is housed in the space saving SO-8 package, whose low pin-count minimizes external components. Its fixed

400kHz PWM operation allows the use of small inductor and small output capacitors and is ideal for noise-sensitive telecommunication applications. Efficiencies over 90% are achievable over a wide range of load conditions.

The circuit in Figure 1 shows the MIC2196 in a flyback topology to generate 5V from input voltage in the range of 30V to 48V for load currents up to 3A. Figure 2 shows efficiency for different input voltages; Figure 3 shows the transient response for a 0.5A to 2.5A load step and Figure 4 shows the output voltage ripple for a load current of 3A.

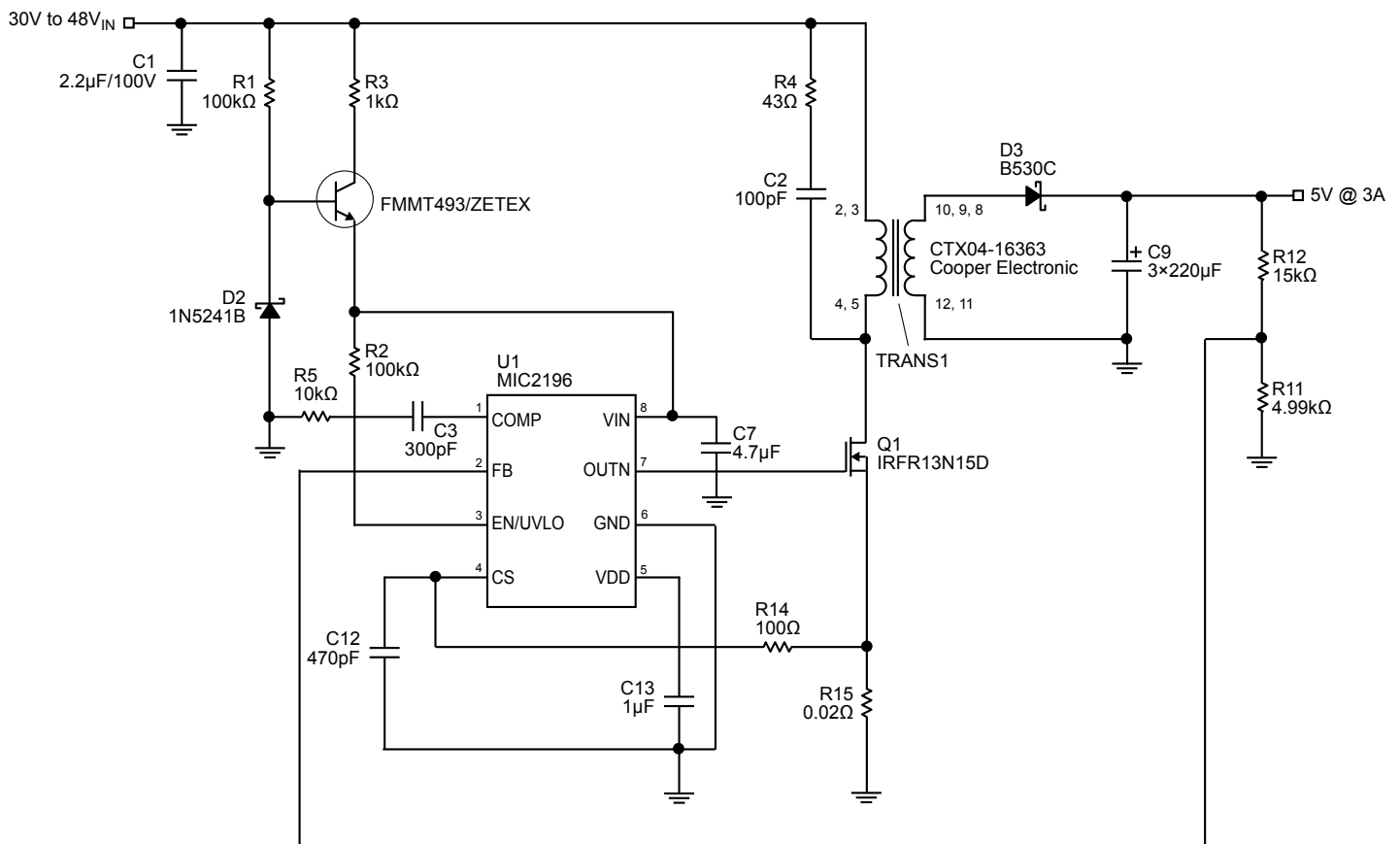


Figure 1. MIC2196 Flyback Schematic for $V_{IN} = 30V$ to $48V$ to $V_{OUT} = 5V$ at $I_{LOAD} = 3A$

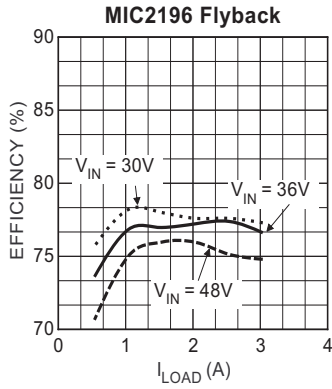


Figure 2. MIC2196 Flyback Efficiency

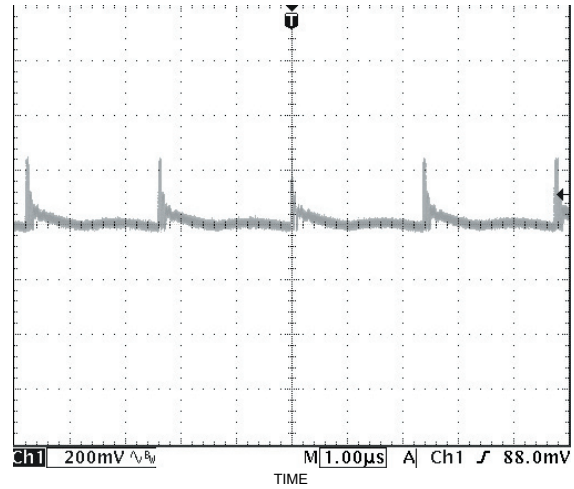


Figure 4. MIC2196 Output Voltage Ripple for $I_{LOAD} = 3A$

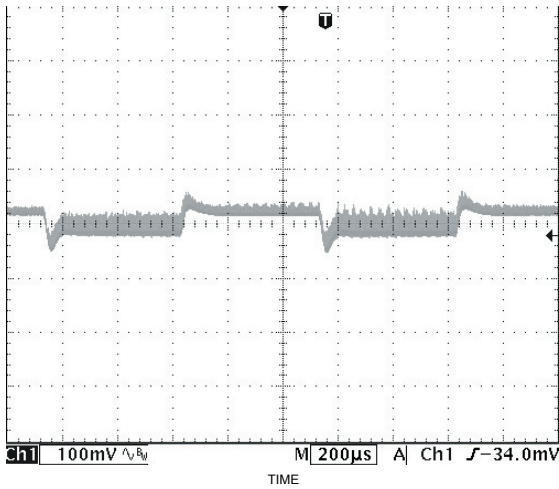


Figure 3. MIC2196 Flyback Transient Response for $I_{LOAD} = 0.5A$ to $2.5A$

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