

Jesus Rosales

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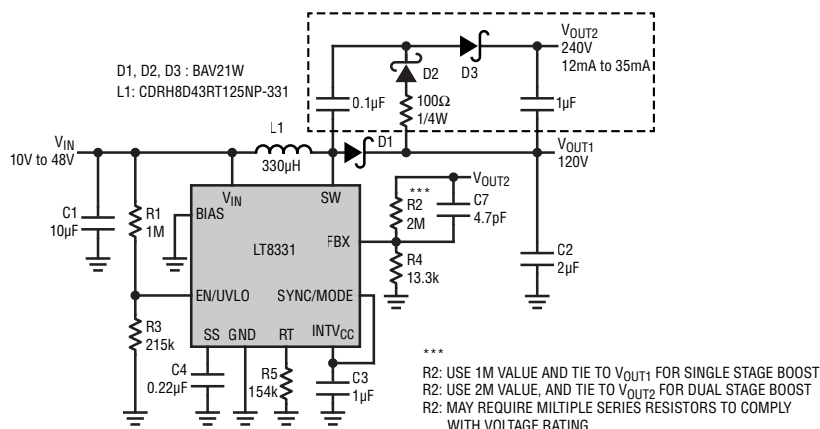


Figure 1. 120V or 240V Output Boost Converter

The LT8331 has very low quiescent current. It features an operation mode where the switching frequency is allowed to decrease progressively when a light load is detected. This mode enables the converter to maintain both high efficiency and low output ripple at light loads. The input current is just 29 μ A when the output is unloaded and about 11 μ A comes from the FBX resistor divider. If the converter is turned off by pulling the EN pin to ground, the input current drops to about 1 μ A for a 5V input, or 2 μ A with a 12V input. A good portion of the shutdown current is drawn by the EN/UVLO resistor divider.

The LT8331's 4.5V to 100V input range and its 140V rated switch make it an ideal candidate for SEPIC and CUK converters. Coupling capacitor, C5, breaks the

input to output DC path, a desirable characteristic in applications where the output must be disconnected from the input. This has the added benefit of removing the current drawn by the FBX resistor divider. The switch voltage in these converters equals the sum of the input and output voltages.

Conclusion

The LT8331 simplifies the design of high output voltage and wide input voltage applications by reducing the number of external components. Its 140V, 500mA internal switch, 100V input, programmable frequency, ultra-low quiescent current and light load Burst Mode operation make it ideal for a broad range of applications.

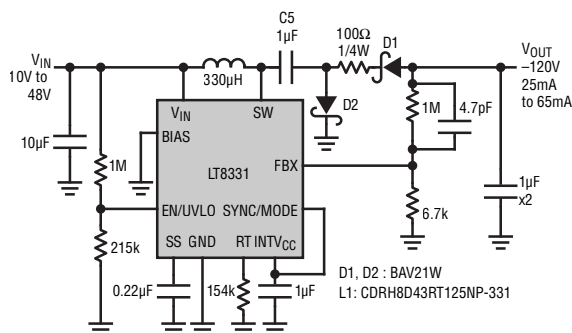


Figure 2. -120V Inverting Converter

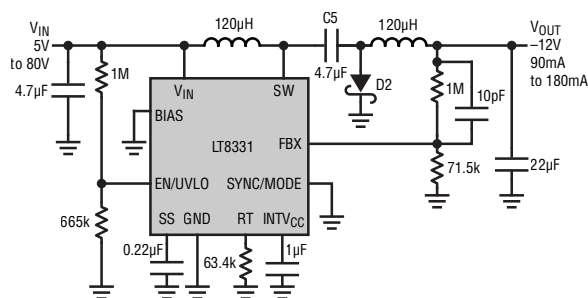


Figure 3. -12V Output CUK Converter

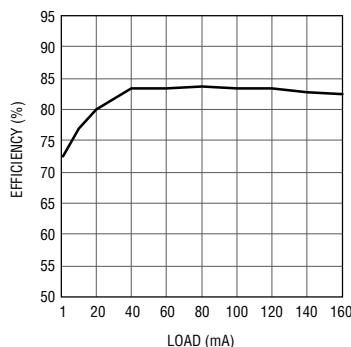


Figure 4. Efficiency Curve for Figure 3 (with a 12V Input)

Data Sheet Download

www.linear.com/LT8331

For applications help,
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