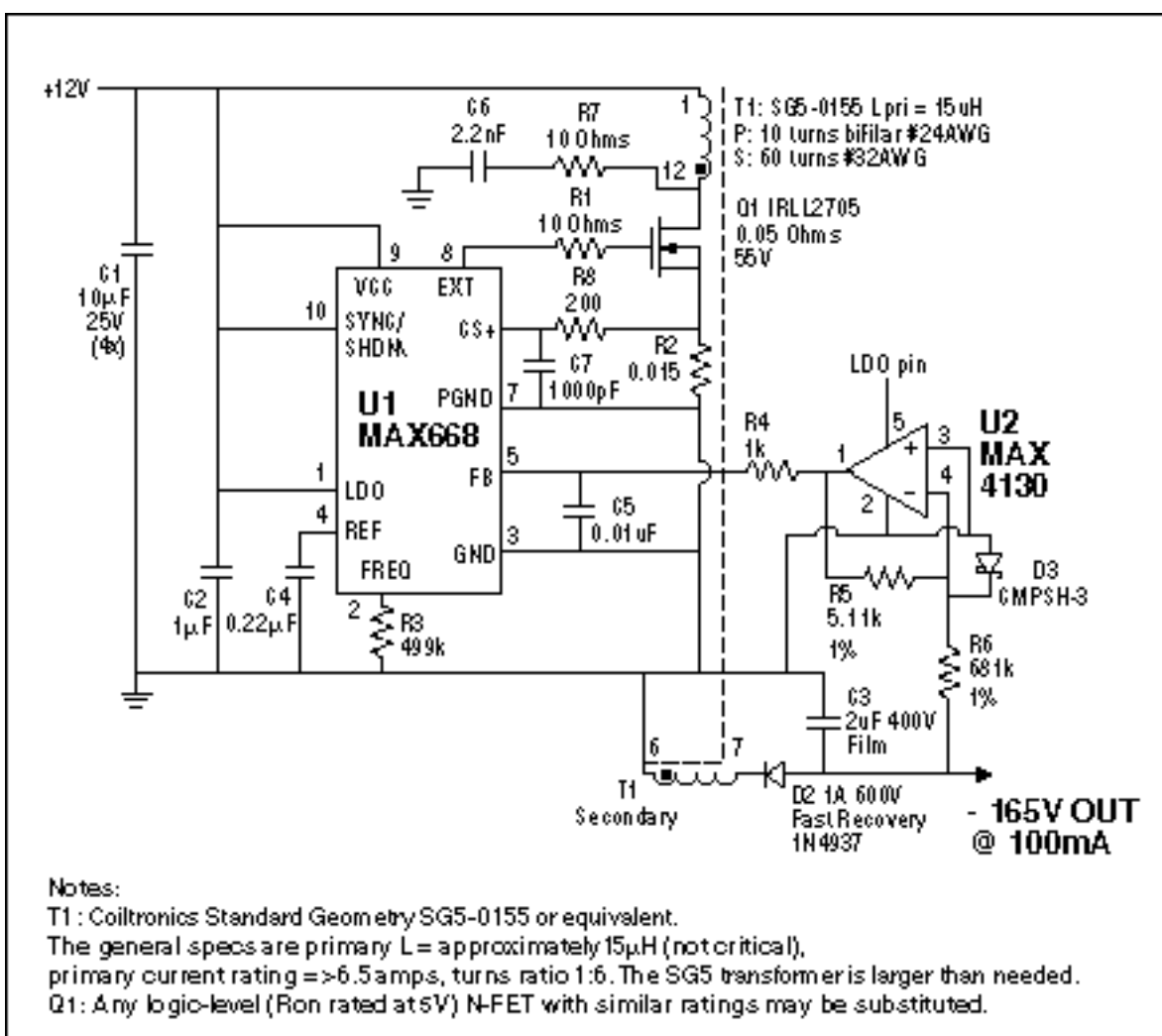


# +12V Input Converter Generates -165V at 100mA

Additional Information: [Quick View Data Sheet for the MAX668](#)  
[Quick View Data Sheet for the MAX4130](#)  
[Powerhelp@design.maxim.com](mailto:Powerhelp@design.maxim.com)



*This circuit uses the MAX668 and a transformer (which will need about a one-to-six turns ratio) to make a flyback converter. The op amp inverts the feedback from the negative output voltage.*

The above circuit generates -165V at 100mA from a +12V input. Based on a MAX668 transformer flyback application, the circuit employs a custom transformer to generate -165V

through a combination of turns ratio and duty cycle. The transformer is designed on an SG5-size bobbin to facilitate the winding and to decrease the leakage inductance.

D2 is chosen as a fast-recovery diode to moderate the cost for a high-breakdown voltage part. Because the diode will see  $165V + (6 \times V_{in}) + \text{flyback}$  due to leakage inductance, a 600V rating is necessary. C3 is selected as a film capacitor to get high voltage rating and high ripple-current capacity.

668-165w, November 2000

### More Information

MAX4130: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

MAX668: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)