

A High Efficiency Royer Driver for a Scanner CCFL

A practical application using Zetex's very low V_{CEsat} transistor is discussed here for driving a 4.5W CCFL lamp (240.0mm x 3.0mm diameter) as used in a scanner. The circuit can be easily modified for CCFL lamps of other sizes for use in large screen LCD displays and notebook computers.

The complete circuit is shown in Figure 1. As it has been designed specially for scanners, the circuit is powered from a fixed 12.0V DC voltage to run at maximum brightness. The ccfl lamp used is a Harrison 240.0mm x 3.0mm diameter unit.

The lamp current is measured at 5.0mA corresponding to 370.0mA at the input. Waveform across the lamp is a sinusoid.

The circuit operates at nominal 65.0kHz.

The efficiency measured with a dummy load of 150.0K Ω pulling 5.0mA rms. is greater than 80% enabling Zetex's SuperSOT-23 or SOT-323 transistors to be used. No heatsinking is necessary further reducing cost.

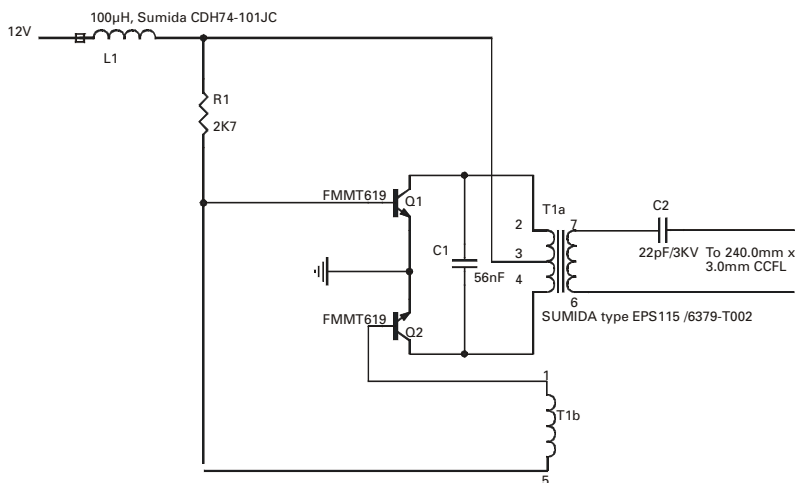


Figure 1