

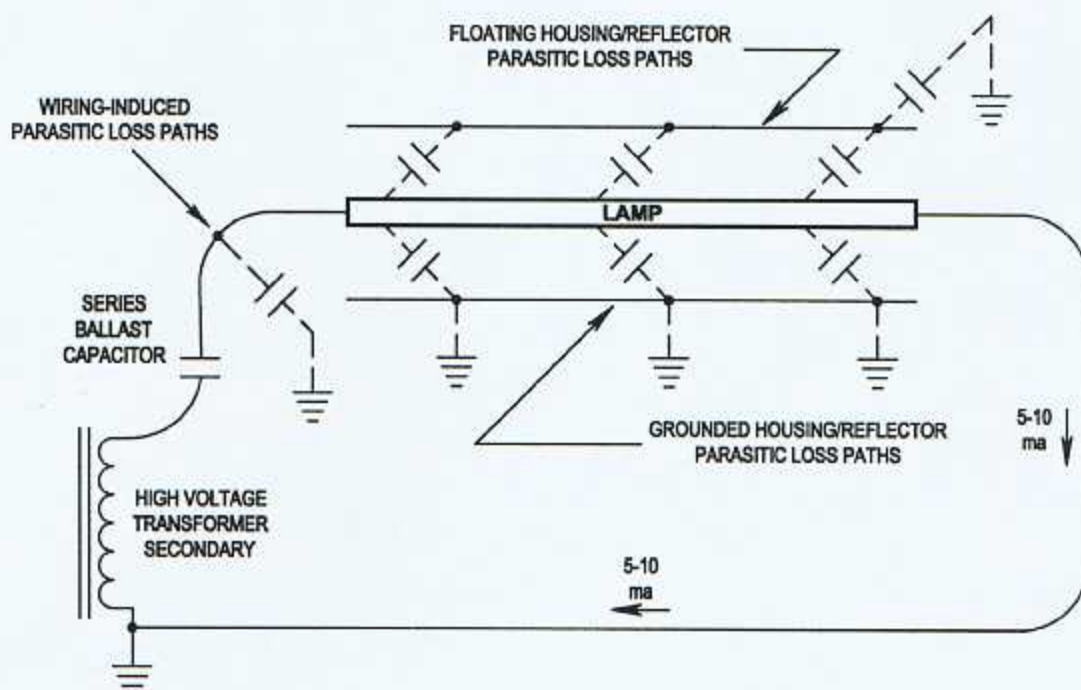
## YOU WANT TO PUT IT WHERE?

The cold cathode fluorescent lamp is not a stand-alone component. The physical layout, the leads, the inverter and the housing are all integral parts of a complex circuit. Each element in the circuit contributes pronounced electrical loading. All of these loading effects must be considered in order to produce an efficient circuit.

The largest contributors to the loading effect are the parasitic capacitance paths between the inverter ballast capacitor and the lamp to ground and the capacitance from any point along the lamp's length to ground. Losses in excess of 30% have been observed in poorly designed circuits. A rule of thumb for estimating the losses is to assume 1-2% efficiency loss per each one inch of high voltage lead and a 1% efficiency loss for each inch of lamp length in near proximity to a grounded reflector or housing.

Optimization of a cold cathode fluorescent circuit may be accomplished by keeping the high voltage lead as short as possible, routing the return lead away from the lamp and isolating any reflector from AC ground.

The circuit diagram below depicts the parasitic loss paths associated with a typical backlight circuit.



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