

Application Note 65

APPENDIX A

"HOT" CATHODE FLUORESCENT LAMPS

Many CCFL characteristics are shared by so-called "Hot" Cathode Fluorescent Lamps (HCFLs). The most significant difference is that HCFLs contain filaments at each end of the lamp (see Figure A1). When the filaments are powered they emit electrons, lowering the lamp's ionization potential. This means a significantly lower voltage will start the lamp. Typically, the filaments are turned on, a relatively modest voltage impressed across the lamp and start-up occurs. Once the lamp starts, filament power is removed. Although HCFLs reduce the high voltage requirement they require a filament supply and sequencing circuitry. The CCFL circuits shown in the text will start and run HCFLs without using the filaments. In practice, this involves simply driving the filament connections at the HCFL ends as if they were CCFL electrodes.

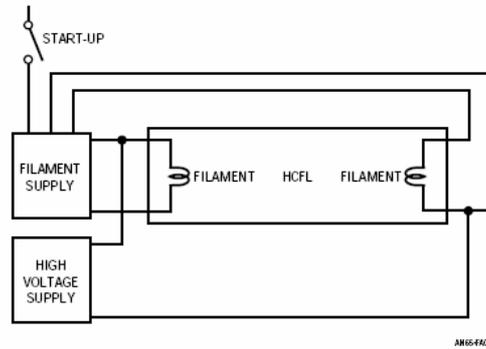


Figure A1. A Conceptual Hot Cathode Fluorescent Lamp Power Supply. Heated Filaments Liberate Electrons, Lowering the Lamp's Start-Up Voltage Requirement. CCFL Supply Discussed in Text Eliminates Filament Supply