The LS7539 Touch Control Step Dimmer Light Switch IC has a Mode which allows it to operate as an On-Off Switch. Although intended for use with resistive loads such as incandescent lamps (See Data Sheet, Fig. 4), the IC can be interfaced to the Magnetic Ballast of a Fluorescent Lamp.

The Power Factors for Magnetic Ballasts typically range from 87% for a four-lamp ceiling fixture, to 55% for a single-lamp under-the-cabinet fixture. The interface for these inductive loads requires that the 100µs OUT pulse be stretched to 3ms before application to the Triac Gate. This ensures that the triac fires in each AC Half-Cycle even when the Triac Main Current has a phase delay of as much as 3ms from the AC Mains Voltage. Figure 1 shows the required interface as part of a complete Application Schematic.

A 10mA Gated Triac such as the Q5004L3 for the four-lamp fixture or the Q501E3 for the single-lamp fixture was selected as a good compromise for High Noise Immunity and Low Power.

---

**FIGURE 1. A TOUCH CONTROL ON-OFF SWITCH FOR FLUORESCENT LAMPS**

All Resistors 1/4W, all Capacitors 16V unless otherwise specified.