

### A TRANSFORMER SECONDARY ELECTRONIC DIMMER FOR LOW VOLTAGE HALOGEN LAMPS

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There are many applications which require electronic dimming control of a low voltage Halogen Lamp. Some applications do not require the Dimming Circuit to operate in the Transformer Primary. The environment of the Transformer Primary can be unfriendly for most electronic dimmers because the required circuitry is expensive to build and has the potential to be unsafe due to the phenomena of half-waving. Half-waving can be triggered by poor design, component failure and/or bulb failure. Half-waving can cause excessive heat to build up in the Transformer and pose a fire hazard. Our LS7631 - LS7632 ICs have solved the problems associated with operating Electronic Dimmers in the Transformer Primary.

A Touch Control or a Mechanical Switch Control Electronic Dimmer may also be constructed safely and inexpensively in the Transformer Secondary as illustrated in Figure 1 and Figure 2, respectively. These schematics show a 50W Halogen Lamp controlled by an LS7231 IC. Any wattage Halogen Lamp can be controlled. If the required Triac Gate Current is larger than 25mA, a 1A Triac may be used to trigger a Power Triac as illustrated in Figure 3. Some of our other Electronic Dimmer ICs can be used in place of LS7231.

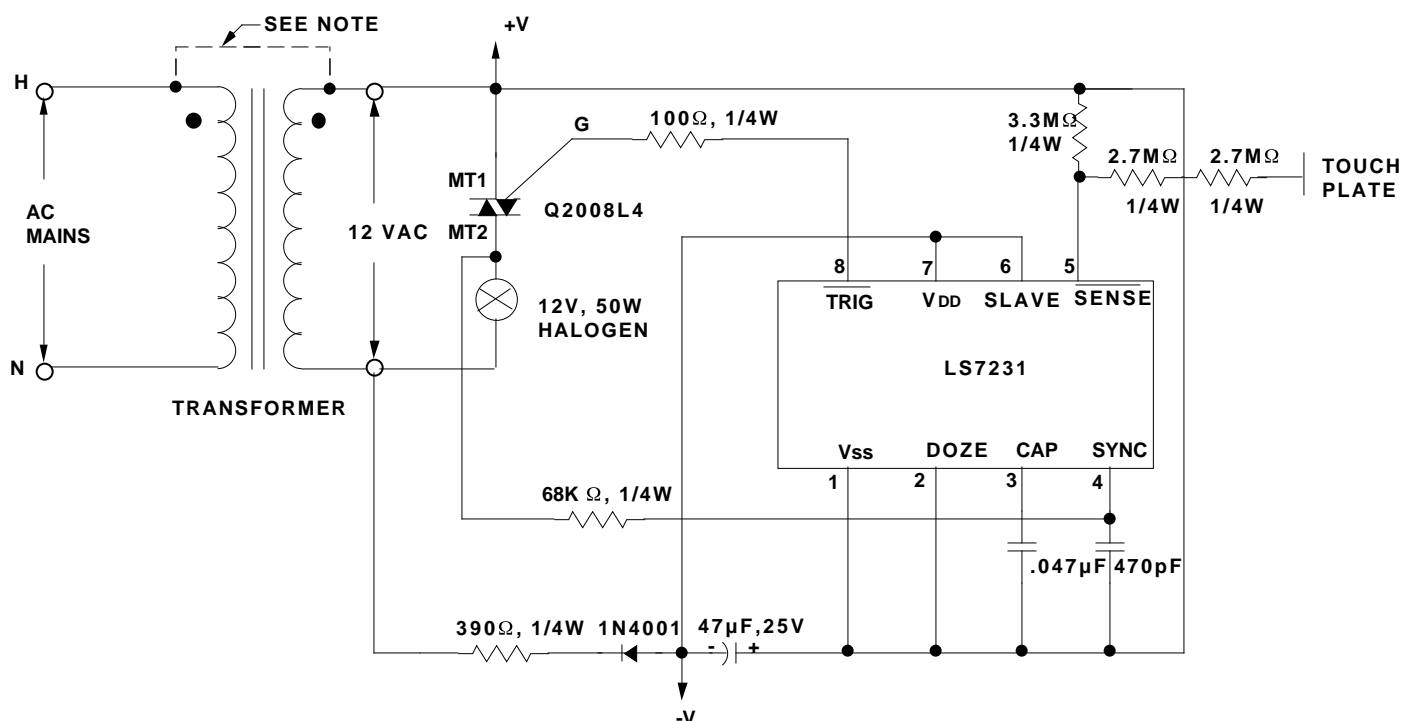


FIGURE 1. TRANSFORMER SECONDARY LOW VOLTAGE TOUCH CONTROL DIMMER

**NOTE:** Touch Sensitive Operation requires AC MAINS and Transformer Polarity as shown. The connection to AC HOT may be required for transformers with small values of interwinding capacitance.

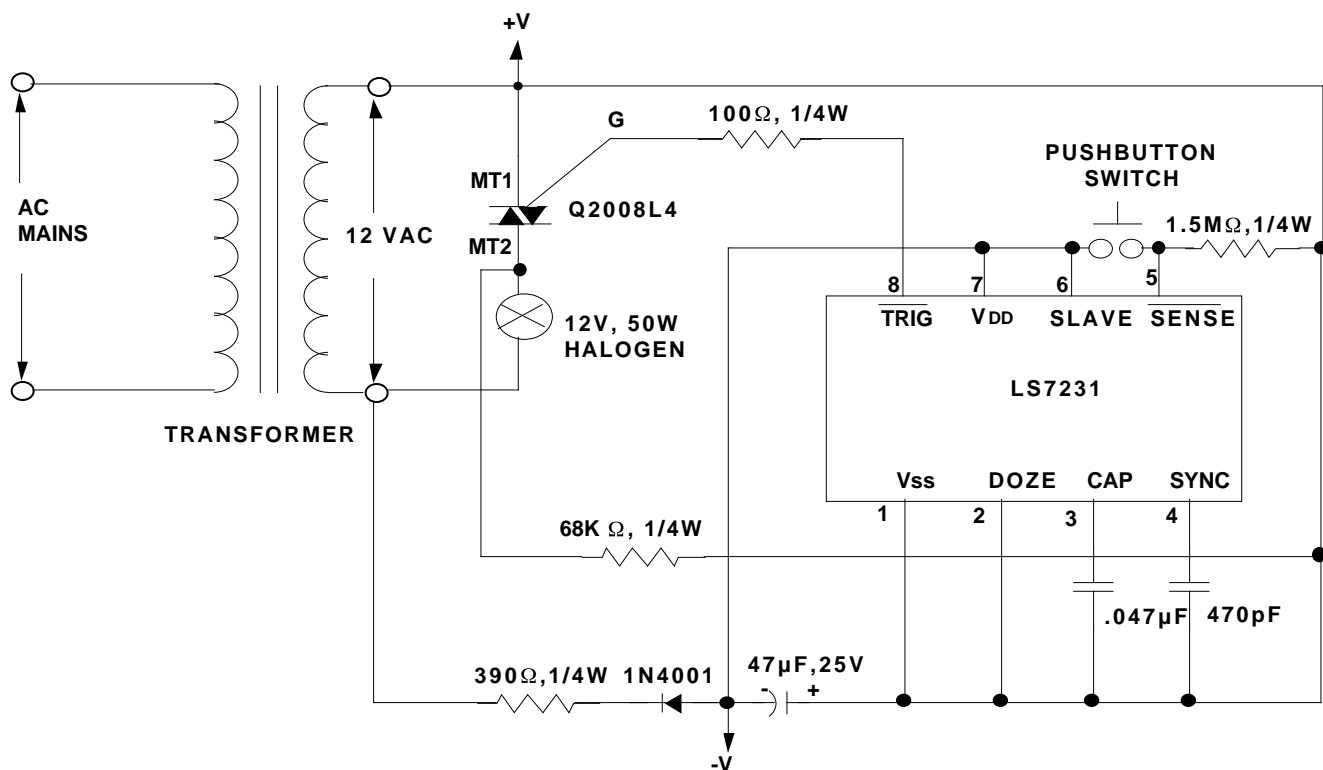


FIGURE 2. TRANSFORMER SECONDARY LOW VOLTAGE MECHANICAL SWITCH CONTROL DIMMER

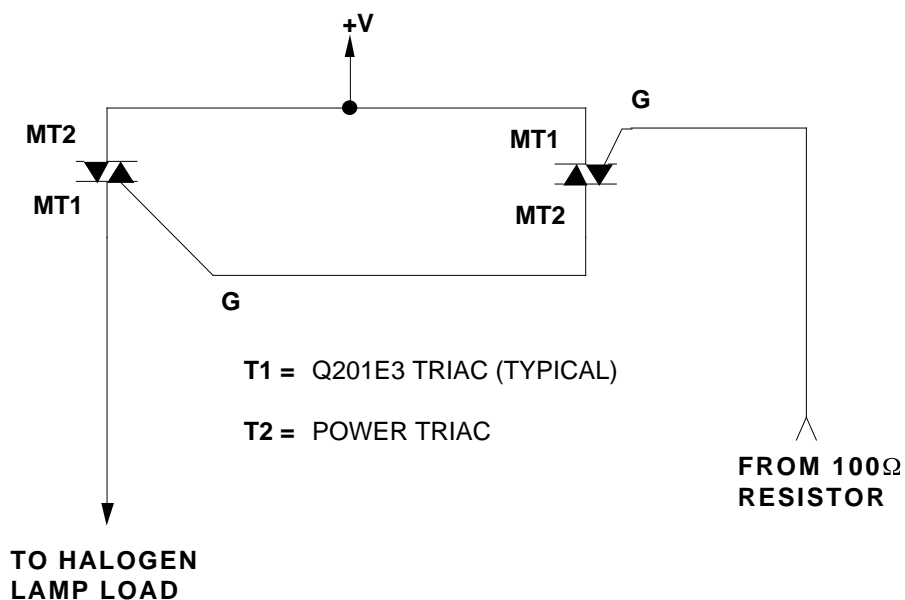


FIGURE 3. TWO TRIAC BUFFER FOR HIGH POWER LOADS

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