TRIAC Dimmer Board

PCB layout requirements

* 2-layer board (cost)
* 1oz copper (cost)
* FR4 Dielectric (cost)
* High Voltage Traces
  + Min clearance 54mil (IPC-2221)
* High Power Traces
  + Max temp rise 10 °C (safety)
  + Min width of 54mil (IPC-2152)

Connector Requirements

* Fully shrouded, no exposed conductors (safety)
* Right-angle (ergonomics)
* Tin-plating (cost)

Specifications

* Input
  + 85 – 155 VAC @ 60Hz (safety)
  + 2.5A Max (safety)

Capacitor Requirements

* 250 VAC (at least 1.5xMax Input Voltage) (safety)

Performance Requirements

* Maximum duty cycle shall be a minimum of 90%

Fusing Requirements

* Derate max current by 25% (safety)
  + 2.5A / 0.75 = 3.33A
* Voltage Rating 250 VAC (at least 1.5xMax Input Voltage) (safety)