TECHNICAL DESCRIPTION

This energy saving lighting device is specially designed to replace the traditional halide lighting device. Compared to the traditional one, this new lighting device uses the electronic ballast and energy saving compact fluorescent lamp which is more safe and energy saving.

EMI

The electronic ballast is designed to suppress any EMI(Electro Magnetic Interference) noise generated by the high frequency source to a safe range to avoid the interference to the other electronic devices and the power supplier net work.

RECTIFICATION AND FILTER

Rectifier converts power supply form AC to DC and it is also a full wave bridge rectifier with larger filter capacitor to protect the circuit again line transient. It also attenuates any EMI (Electro Magnetic Interference) noise generated by high frequency source that feeds the lamp tube.

INVERTER

Inverter change the DC supply into high frequency AC. It employs the half bridge-voltage fed topology for inverting. It consists of two transistors connected in series across the output of the rectifier circuit. A train of pulses is created for voltage and current by the inverter switch circuit. The power switch is control by a small stature core transformer.

OUTPU

The energy saving tube is the load of output section. It is in series with a LC resonance circuit. It feeds back the high frequency through the control circuit to synchronize the inverter frequency.

The LC resonance circuit provides the high voltage which strikes the lamp tube during startup. Once the lamp tube are on, the LC resonance circuit will generated the lamp tube working voltage which is less than the voltage of startup.

PROTECTION

The electronic ballast is designed to have the self-protection function which works in the following cases : 1. when the lamp is air leakage which means the load is incorrect; 2.when the voltage of the power supplier is incorrect.