

## The electric circuit explains describes:

零部件功能: 保险丝、TB10S 集成 IC (用于交直流变换)、快恢二极管 (三极管偏置、触发关断)、触发二极管 (高频信号产生)、高压功率三极管 (高频开关量功放)、滤波电解电容器 (直流电源滤波)、高压电容 (阻抗匹配)、低压电容 (与电阻组成触发电源)、起亮电容 (并接灯管产生起亮电压)、反馈线圈 (磁环, 绕制振荡线圈)、电感 (作为高频输出匹配)、小电阻 (分别用于充电、三极管偏置、阻抗匹配)

**(Components' Function: fuses, TB10S integrated IC (for AC-DC Transform), fast restore diode (triode bias, triggered shutdown), the trigger diode (produce high-frequency signal), the high-voltage power transistor (high frequency switching of amp), electrolytic capacitor filter (DC power supply filtering), high-voltage capacitors (impedance matching), low-voltage capacitor (composed trigger power and resistivity), a bright capacitance (and then have a bright lamp voltage), feedback coil (magnetic ring, winding oscillating coil), inductance (as a high-frequency output matching), low resistance (for charging transistor biasing, impedance matching))"**

电路描述: 供电电源电压为 120Vac, 60Hz, 接通电源, 电流经 FUSE、L1 和 C1 输入 TB10S 电路。经 TB10S 电路整流, 把交流电压转换直流电压, 作为镇流器的工作电源。该电压经 R4, R3 降压后给 C3 充电, C3 充满电量后, 触发 D1 (DB3) 产生谐振, 磁环开始工作, 上下三极管 (Q1, Q2) 交替导通。由于磁环正反馈作用, 使磁环处于饱和状态, 感应电动势为零, 此时电流达到最大值, 开始下降, 两个副绕组感生的电动势也开始反向。同时磁环加在下管的负压逐渐加大, 下管即将关断, 上管随后即将开通。待下管关断, 上管开通并进入饱和工作区。启动电容 C3 开始充电。由于正反馈作用, 磁环加在上管的负压逐渐加大, 上管即将关断, 下管随后即将开通。待上管关断, 下管开通并进入饱和工作区后。启动电容 C3 开始放电。此时有一工作频率为 25~50KHz 的高频电压送至 L3 和 C6 升压后, 将荧光灯管内气体电离, 灯管点亮。同时少量电流通过 C7 构成回路对灯丝起到辅助加热作用, 以保持稳定照明。

Circuit Description: The power supply voltage is 120 Vac, 60Hz. When the power source connected, the current through FUSE, L1 and C1 into TB10S circuit. The TB10S is a rectifier circuit, for AC voltage-DC voltage conversion, as the power source of Ballast. The voltage through R4, R3 hypotension for charging to C3, when C3 is full of electricity, triggering D1 (DB3) have resonance, magnetic ring began working, transistors Q1 and Q2 are turn to work. Because of magnetic ring positive feedback, the magnetic ring reaches the saturation point, and EMF is zero. After current reaches the maximum, the current to be decline, the two second winding induced electromotive force also began to reverse. At the same time the negative pressure of Q1 is increasing from magnetic ring, and the Q1 will be shutdown, at the same time Q2 will be opened. When the Q1 shutdown, the Q2 opening and entered the work area saturated. The start capacitor C3 began charging. Because of the feedback role in the magnetic ring and the gradual increase of the negative pressure in the Q2, the Q2 will be shutdown, Q1 will be opened. When the Q2 shutdown, the Q1 opening and accessing to the work area after saturation. The start capacitor C3 began discharge. At this time there is a frequency of 25 KHz to 50 high-frequency voltage sent to the C6 and L3 boost will be followed by fluorescent tubes, the gas ionization, and lamp lit. At the same time a small current through the filament circuit C7 played a supporting role in heating and lighting, in order to maintain stability.