1.1.8 Electronic Transformers for Low-Voltage Light Sources

The Figure 125 shows a typical, switched-mode power supply for a halogen lamp, commonly known as an electronic transformer. Such devices have some limitations, such as its inability to dim the lamp. The simplified schematic of a typical low-voltage halogen-lamp transformer comprises a classic, half-bridge topology that works in selfoscillating mode. The circuit provides positive feedback by placing the primary windings of transformer T1 in series with the bridge output. To achieve a high powerfactor value, a rectified but unfiltered mains voltage supplies power to the circuit. The working frequency is approximately 30 to 40 kHz. Many electronic transformers need a minimum ballast for stable operation without flickering. It is advised to check if dimming is required and which dimming system is applied in order sure that the right type of electronic transformer is used in the application.

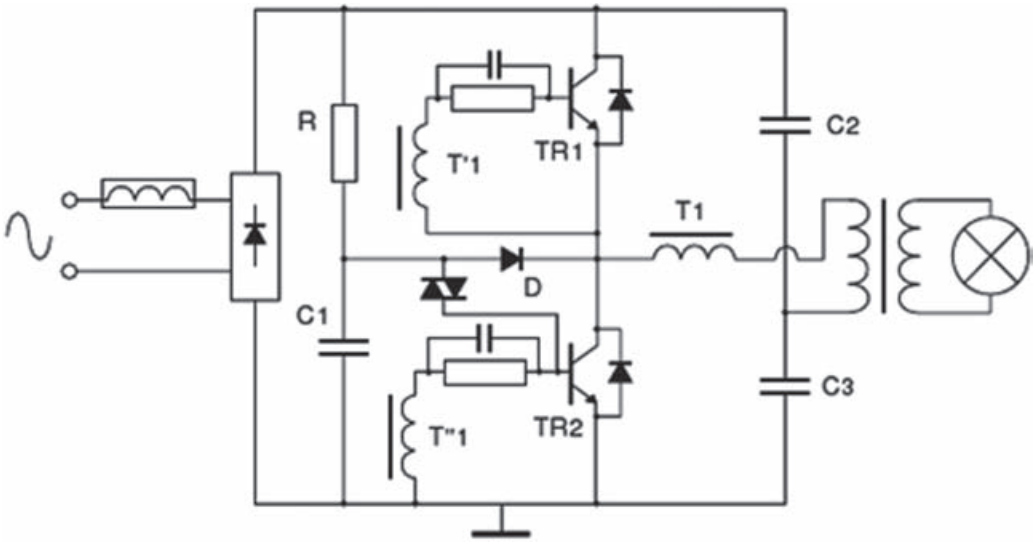

Figure 125
Schematic of non-dimmable electronic transformer.