

SOFT START CIRCUIT FOR SELF-OSCILLATING DRIVERSABSTRACT OF THE DISCLOSURE

A half bridge driver chip for driving a resonant load, such as a ballast, has first and second pairs to which an oscillation frequency timing circuit, matched to the resonant frequency of the load. A constant voltage drop circuit is connected to these input pins to vary the voltage at the pins as a linear function of the input voltage V_{cc} . Consequently, when V_{cc} is increasing during the start-up of the circuit, the resonant frequency is initially high but decreases to its operation value as V_{cc} increases. This produces a soft start characteristic and a timed preheat cycle of the resonant load. In one embodiment, the constant voltage drop circuit is a zener diode; in another embodiment, it is strings of anti-parallel connected diodes.

Figure 3