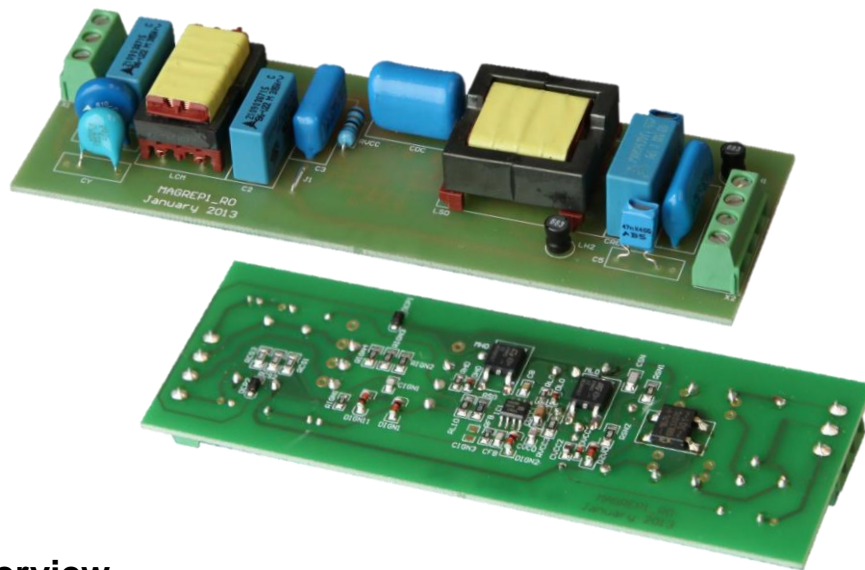


# IRMAGREP1<sup>†</sup>

## 220V Magnetic Ballast Replacement using IRS2538DSPBF



### 1. Overview

The IRMAGREP1 reference design is a simple, single-stage, and high-performance magnetic ballast replacement using IRS2538DSPBF. It drives a 1x36W T8 fluorescent lamp from a 220VAC line. The single-stage circuit provides all of the necessary functions for preheat, ignition, and running the lamp and also includes the EMI filter and AC rectification stage.

The circuit is designed around the IRS2538DSPBF control IC. The IRS2538D includes a novel single-stage circuit topology and control method to achieve high power factor and low THD without a PFC stage or any electrolytic capacitors. The IC includes adaptive dead-time, internal bootstrap MOSFET, micro-power start-up current, closed-loop lamp current control, half-bridge NZVS protection, and excellent ESD and latch immunity. The IR2538D is simple to use with only 8 pins.

† The IRMAGREP1 is not available for purchase. IR Sales Team must submit a samples exception form to [Sample1@irf.com](mailto:Sample1@irf.com).