

2.5W AC IoT Transformer-Less MuxCapacitor® Power Chip-Set

Helix Semiconductors AC IoT

The Helix Semiconductors AC Transformer-Less IoT Power Chip-Set offers the highest energy efficiency per density. Multi-stage MuxCapacitor plus Buck Regulator reduces thermal loading. A capacitive power driver and receiver replace the traditional transformer offering 3kV isolation creating a low profile module design for high density equipment.

Intelligent capacitive power driver, MuxCapacitor and COT Buck Regulator timing & control optimizes power delivery efficiency from no-load to maximum power.

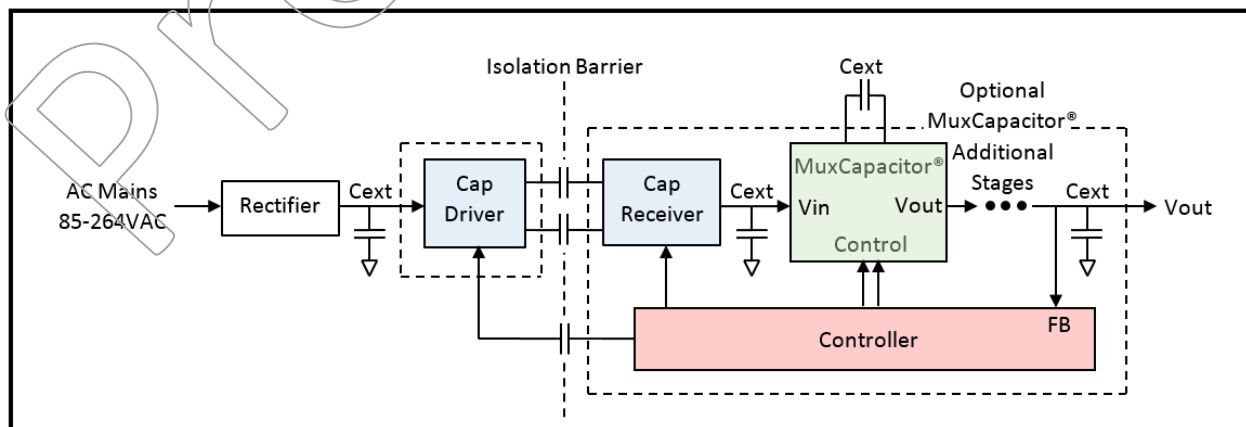
Applications

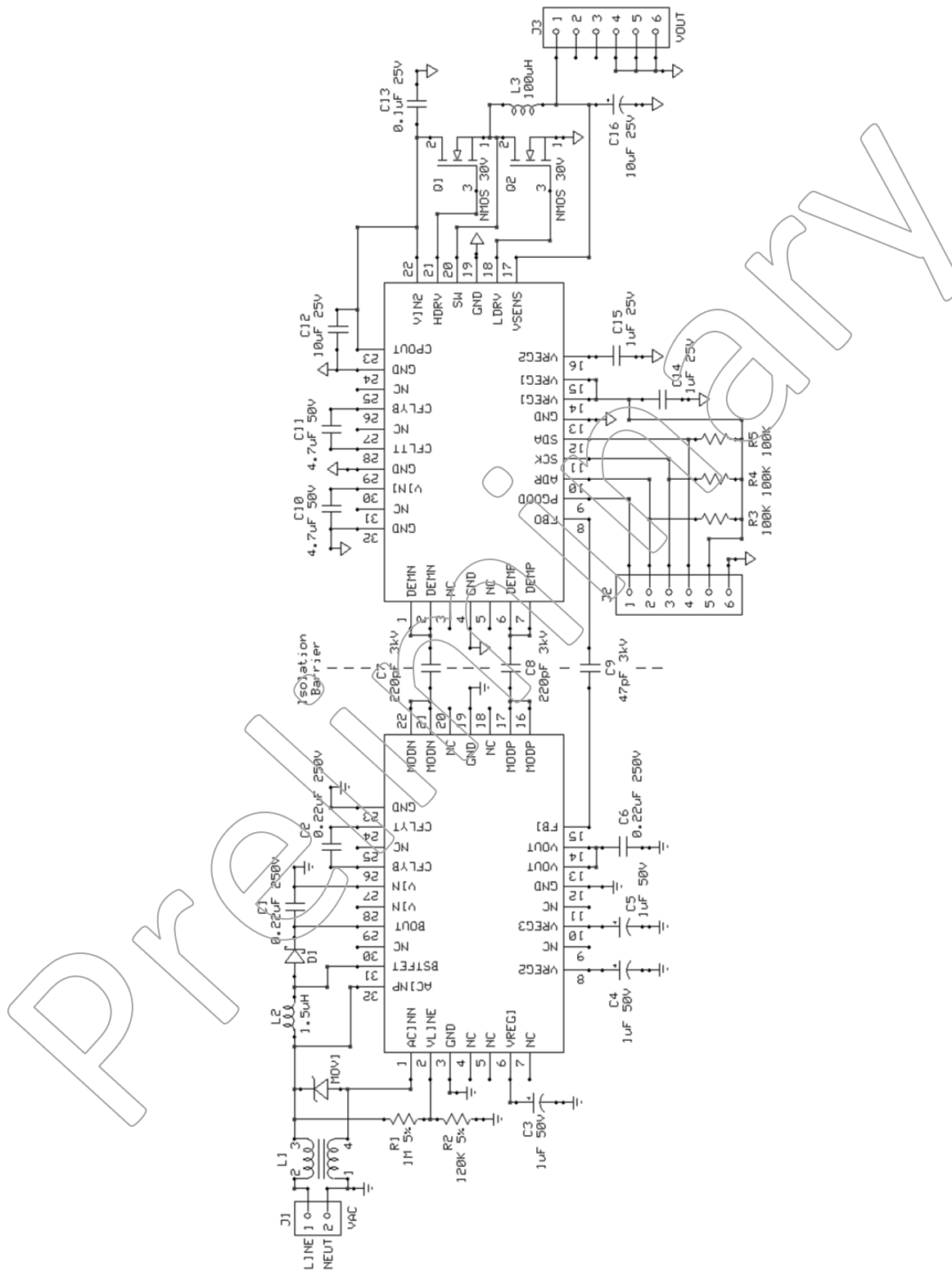
- Remote Sensors
- AC Smoke/CO Alarms
- Smart Outlets
- IoT, IIoT Gateways
- Consumer Appliances User Interface

Features

- Universal 90, 120, 240VAC Input Voltage
 - 3kV Capacitive Isolation
- Output Voltage Configuration
 - 1.8V, 2.5V, 3.3V, 5V, 6V, 7.5V, 9V, 12V, 15V
 - ±1% Output Tolerance
 - COT Buck Regulator
- 2.5W Output
 - Low Voltage current limitation
- Low Power Standby Operation
 - 10mW Power Consumption
 - Always On Output
 - Configurable Shutdown Mode
- > 90% Efficiency at all loads
- Sequenced Soft-Start
- Power Good Indicator
- Fault Detectors
 - Input Under Voltage
 - Output Over Voltage
 - Output Over Current
 - Thermal Shutdown

System Block Diagram





Application Schematic