

## Product Brief

# ICL5101 High-Voltage Resonant Controller IC for LED Driver

The ICL5101 integrates a half-bridge controller with a PFC stage in a single package. The high level of integration assures a low count of external components, enabling small form factor designs ideal for compact power supplies in lighting applications, such as LED driver.

The PFC stage operates in CrCM and DCM mode, supporting stable operation at low load conditions down to 0.1% of the nominal power. The half-bridge resonant stage – typically in LLC topology – provides high- and low-side gate drive function for discrete MOSFETs rated up to 650V. Its non-overlap dead time is adaptive from 500ns ... 1.0µs.

All operation parameters of the IC are adjustable by simple resistors, this being the ideal choice for cheap and reliable configuration. A comprehensive set of protection features incl. an adjustable external over temperature protection and capacitive load protection ensures the detection of fault conditions to increase the system safety.

### Applications

- Indoor and outdoor high-power LED lighting
- High-bay and low-bay lighting
- Street lighting
- Parking garages and area lighting
- Office panel lighting

### Key Features

- Universal AC and DC input
- Combined PFC and half-bridge IC
- Integrated high-voltage gate driver
- Power factor > 99%, THD < 10%
- High efficiency up to 95%
- Short startup time < 200ms

### Key Benefits

- High level of integration resulting in a low external component count and a cost
- All operation parameters are adjustable with simple resistors to allow simple configuration
- Stable low load operation mode
- Comprehensive protection modes

### Product Summary

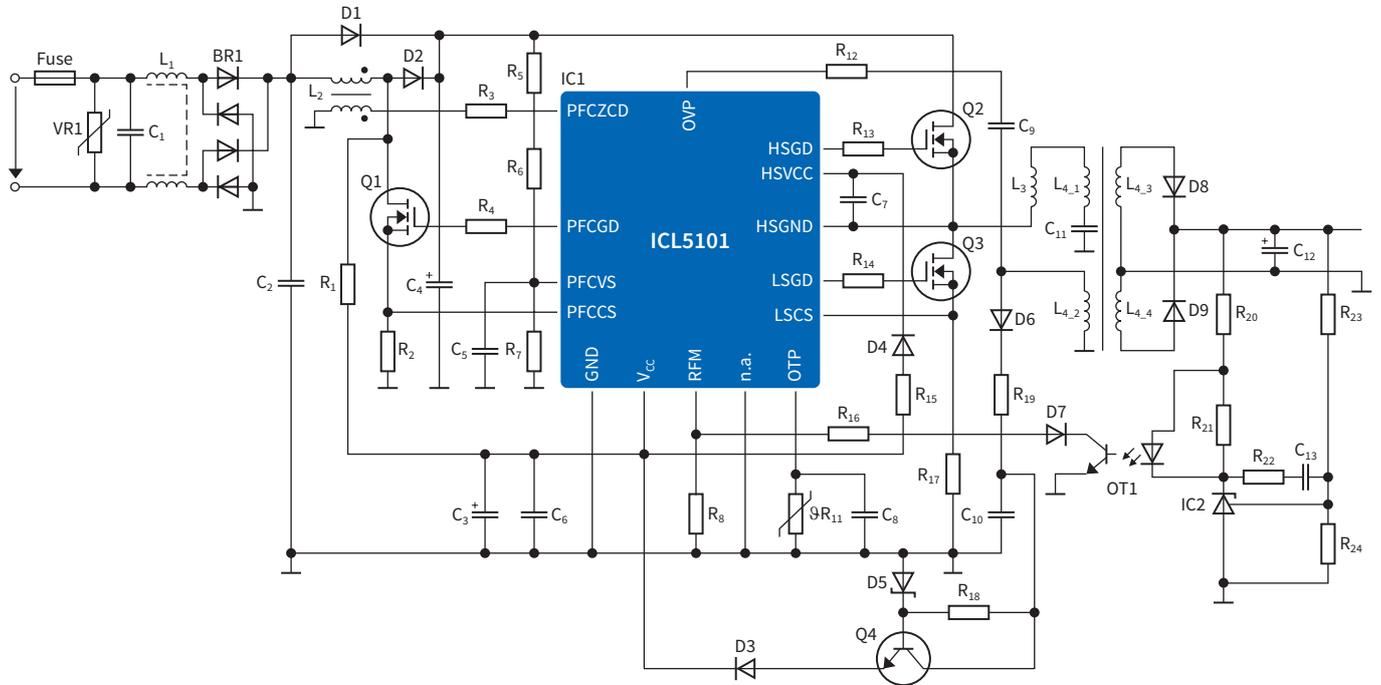
Type	Description	Ordering Code
ICL5101	Resonant controller with PFC	SP001213622



# ICL5101

## Resonant Controller IC with PFC

### Typical Application Schematic



### Design Support Tools



Type	Description	Ordering Code
EVALLD1CL5101E1	PFC/LLC evaluation board 110W	SP001296078

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