

LED Driver Module for Solid State Lighting Applications



DESCRIPTION

High Efficiency High Power Dimmable Single String Power Supply and LED Driver Module for Residential, Commercial and Industrial LED Lighting Applications

The LXMG221W-0700034-D0 is a high-efficiency (90%), compact LED lighting driver module designed for the next generation LED-lighting in worldwide residential, commercial and industrial applications.

It supports a universal AC input (90V_{AC} to 305V_{AC}, 47Hz to 63Hz) and drives one output string of LED's at 700mA up to 48V (34W typical).

The driver can be easily integrated in dimming or non-dimming LED fixtures. Dimming is controlled through terminal leads that include a BRITE_A dimming input with a dedicated RETURN lead. The amplitude of the output LED string current will vary from 10% to 100% corresponding to a 1V_{DC} to 10V_{DC} signal on the BRITE_A input, potentiometer or PWM.

The LED driver is protected in case of over-temperature events as measured at the case hot spot. During such events the driver will shutdown; when the temperature decreases sufficiently the module will automatically restart. Other safety features include open-output circuit protection and short circuit protection.

Enclosed in a compact IP66 rated plastic package, the LXMG221W-0700034-D0 meets UL1310 class 2 for SSL (designed to meet UL8750), EN61347-2-13 (pending) and meets FCC Class B (see next page for more details).

Patent Pending.

KEY FEATURES

Universal Input AC Voltage Range

- 90V_{AC}-305V_{AC}, 47Hz to 63Hz
- Active Power Factor >0.9 at Full Load

Wide Power Output

- Up to 34W

Multiple Dimming Options (10-100%)

- 0V_{DC} to 10V_{DC}, Potentiometer & PWM
- Can also operate without dimmer

Single String Configuration for a wide variety of loads

- Current: 700mA ± 5%
- Voltage: 14-48V_{DC}

Compact IP66 Package

- Plastic case with hole for easier mounting

Automatic shutdown protection and re-start in case of power loss and over-case temperature events

BENEFITS

Versatility and Flexibility while maintaining High Efficiency

- The product is designed for a wide variety of LED Lighting Fixtures providing reduced SKU's
 - Indoor and Outdoor
 - Dimming and Non Dimming
 - Residential, Commercial and Industrial
 - Mid to High Power
 - Sold in Worldwide Markets



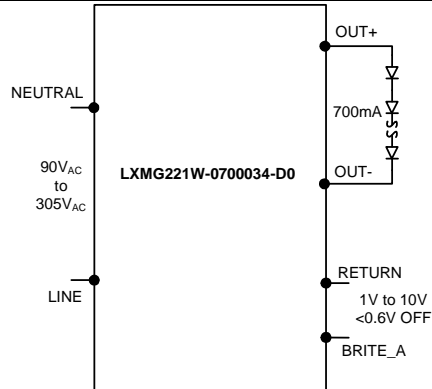
APPLICATIONS

Worldwide Smart Residential, Commercial and Industrial High Power LED Lighting including

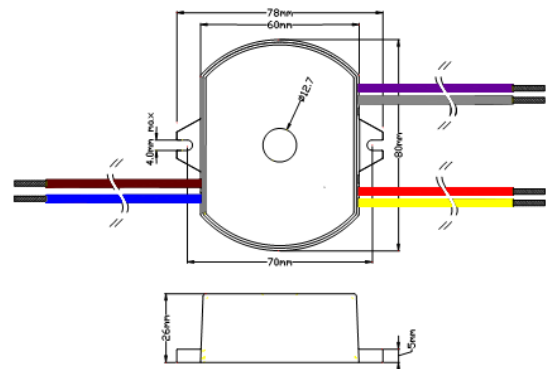
- LED Down-lights and LED Street Lights

Additional Features

- Peak efficiency 90%
- Active PF > 0.9 at full load (0.99 at V_{AC} 120V)
- THD < 20%
- Universal AC Input 90 V_{AC} ~305V_{AC}
- Constant Current 700mA ± 5% Output (14-48V)
- Dimming between 10% to 100% (0-10V Dimming and Potentiometer or PWM)
- Plastic Case (IP66)
- Robust Protection: OVP, OCP, SCP, OTP
- Meets UL1310 Class 2 (File E337545) and is designed to meet UL8750
- Meets CE requirements (pending)
- FCC Class B Compliant
- Can operate from -30°C to +70°C with proper cooling (maximum case temperature 90°C)

CONFIGURATION

LEAD DESCRIPTION

Name	Pin #	Description
INPUT TERMINAL LEADS (18AWG) 16/30 Stranded		
BROWN	VIN Line	Main Input Power Supply
BLUE	VIN Neutral	Main Input Power Supply
CONTROL TERMINAL LEADS (22AWG) 7/30 Stranded		
PURPLE	BRITE_A	Analog Dimming Input
GRAY	RETURN	Dimming Return
OUTPUT TERMINAL LEADS (18AWG) 16/30 Stranded		
RED	OUT+	LED String Anode Voltage (High Side)
YELLOW	OUT-	OUT1 LED Cathode Voltage (Low Side) 700mA

DIMENSIONS

SAFETY AND EMC COMPLIANCE

UL/CE	UL UL1310 Class 2
	EN61347-2-13 (pending)
FCC Title 47, Part 15	Conducted and Radiated Emission, Class B
EN 61000-3-2	Harmonic Current Emissions
EN 61000-3-3	Voltage Fluctuations & Flicker
EN 61547 (pending)	EN61000-4-2 Electrostatic Discharge Immunity EN61000-4-3 Radiated Susceptibility test EN61000-4-4 Electrical Fast Transient EN61000-4-5 Surge Immunity Test, AC Power Line EN61000-4-6 Conducted Susceptibility Immunity test EN61000-4-8 Power Frequency Magnetic Field Immunity Test EN61000-4-11 Voltage Dips and interruption immunity
Life Expectancy	5 years / 50,000 hours @ 100% duty at maximum hot spot case T 55°C
Environmental Standards	RoHS, REACH

ORDERING INFORMATION
LXMG221W-0700034-D0
High Power Single String LED Driver in Plastic IP66 Package
Technical Support Information: for more information on LXMG221W-0700034-D0 and other Microsemi SSL LED Driver Modules please contact your local Area Sales Manager or Field Application Engineer. More information can be found at www.microsemi.com or at +1(714)-898-8121