

Texas Instruments - UCC28810EVM-003 - Evaluation Module

Product Overview:

The UCC28810EVM-003 is an 110-W offline AC-to-DC LED current driver with power factor correction. This design utilizes a three stage approach with a universal input boost PFC stage, a low-side buck stage providing a controlled current source and a half-bridge DC transformer stage to provide isolation to four LED strings.



Kit Contents:

- Includes UCC28810EVM-003 board.

Key Features:

- 90-VRMS to 265-VRMS Operation
- Boost Follower or Fixed Output PFC Stage
- PFC Disable
- Output Current Disable
- External or Internal PWM Dimming
- Output Isolated from Line Input
- Open Circuit Protection (If one LED string fails open the remaining strings stay on.)

Ordering Information:

Products:

| Part Number | Manufacturer | Farnell P/N | Newark P/N |
|-----------------|--------------|-------------|------------|
| UCC28810EVM-003 | TI | 1824823 | 51R5931 |

Associated Products:

| Part Number | Manufacturer | Description | Farnell P/N | Newark P/N |
|-------------|-------------------------|-------------------------------|-------------|------------|
| UCC28810D | TI | LED DRIVER LINEAR 8-SOIC | 1755591 | 50R6957 |
| UCC28811D | TI | LED LIGHTING POWER CONTROLLER | 1689434 | 19P7480 |
| FMMT560 | Diodes INC | TRANSISTOR, PNP | 9525114 | 96K9959 |
| TLC555CDR | TI | Timer, Low-Power CMOS | 8454426 | 38K8364 |
| UCC25600D | TI | Resonant Mode Controller | 1694437 | 34P6588 |
| STP6NK50Z | STMICROELECTRONICS | N CHANNEL MOSFET, 500V, 5.6A | NA | 37M6953 |
| IRF840APBF | International Rectifier | MOSFET, N, 500V, 8A | 8648557 | 63J7412 |
| HFA08TB60S | International Rectifier | DIODE, SOFT RECOVERY, 8A | 9101454 | 97K1334 |

Similar Products:

| Part Number | Manufacturer | Description | Support Device | Farnell P/N | Newark P/N |
|-----------------|--------------|--|----------------|-------------|------------|
| UCC28810EVM-001 | TI | UCC28810 25-W PFC Flyback LED Converter Evaluation Module | UCC28810 | NA | 09R6753 |
| UCC28810EVM-002 | TI | A 0.9-A Constant Current Supply with PFC for 100-W LED Evaluation Module | UCC28810 | 1824822 | 25R0175 |
| UCC28810EVM-003 | TI | 110-W Multiple String LED Driver with Universal Line Input and PFC Evaluation Module | UCC28810 | NA | NA |

Document List:

Datasheets:

| Part Number | Description | Size |
|-------------|--|--------|
| UCC28810 | LED Lighting Power Controller | 1108KB |
| UCC28811 | LED Lighting Power Controller | 1108KB |
| FMMT560 | PNP SILICON PLANAR HIGH VOLTAGE TRANSISTOR | 481KB |
| STP6NK50Z | Zener-Protected SuperMESH™ MOSFET | 399KB |
| IRF840APBF | Power MOSFET | 113KB |
| HFA08TB60S | DIODE, SOFT RECOVERY | 256KB |
| TLC555CDR | Timer, Low-Power CMOS | 78KB |
| UCC25600D | Resonant Mode Controller | 560KB |

Application Notes:

| File Name | Size |
|---|--------|
| Using the UCC28810EVM-00, 25-W PFC Flyback LED Converter (Rev. B) | 2026KB |
| UCC28810EVM-003 110W Multiple String LED Driver with Universal Line Input and PF (Rev. A) | 667KB |
| Non-Isolated 240W Offline LED Driver Using UCC28810, and UCC28811 | 505KB |
| Isolated 240W Offline LED Driver Reference Design Using UCC28810, UCC28811, and | 652KB |

Other Resources:

| File Name | Size |
|--|--------|
| LED Reference Design Cookbook (Rev. A) | 6675KB |
| Lighting: Multi String LED Driver | - |
| TV: LCD/Digital | - |