

Product Overview

FL7733A: LED Driver with Power Factor Correction, Primary-Side-Regulated

For complete documentation, see the data sheet.

The FL7733A is a highly-integrated PWM controller with advanced Primary-Side Regulation (PSR) technique to minimize components in low-to-mid-power LED lighting converters. Using an innovative TRUECURRENT® technology to provide tight tolerance constant-current output, this LED driver enables designs with constant current (CC) tolerance of less than $\pm 1\%$ over the universal line voltage range to meet stringent LED brightness requirements. By minimizing turn-on time fluctuation, high power factor and low THD over the universal line range are obtained in the FL7733A. An integrated high-voltage startup circuit implements fast startup and high system efficiency. During startup, adaptive feedback loop control anticipates the steady-state condition and sets initial feedback condition close to the steady state to ensure no overshoot or undershoot of LED current. The FL7733A also provides powerful protections, such as LED short / open, output diode short, sensing resistor short / open, and over-temperature for high system reliability. The FL7733A controller is available in an 8-pin Small-Outline Package (SOP).

Features

- Performance
 - $\pm 3\%$ Total Constant Current Tolerance Over All Conditions
 - $\pm 1\%$ Over Universal Line Voltage Variation
 - $\pm 1\%$ from 50% to 100% Load Voltage Variation
 - $\pm 1\%$ with $\pm 20\%$ Magnetizing Inductance Variation
 - Primary-Side Regulation (PSR) Control for Cost-Effective Solution without Requiring Input Bulk Capacitor and Secondary Feedback Circuitry
 - Application Input Voltage Range: 80 VAC - 308 VAC
 - High PF of ≥ 0.9 , and Low THD of $\leq 10\%$ Over Universal Line Input Range
 - Fast ≤ 200 ms Start-up (at 85 VAC) using Internal High-Voltage Start-up with VDD Regulation
 - Adaptive Feedback Loop Control for Startup without Overshoot
- For more features, see the data sheet

Applications

- Lighting
- LED Lighting – Mid Power – Non dimming
- LED Lighting – Mid Power- Analog/PWM dimming
- LED Lighting – Low Power – Non dimming
- LED Lighting – Low Power – Analog/PWM dimming

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Topology	V _I Min (V)	V _I Max (V)	V _O Max (V)	I _O Max (mA)	f _{sw} Typ (kHz)	Package Type
FL7733AMX	0.3867	Pb-free Halide free	Active	PSR PFC Flyback	17.5	308 V _{AC}	18 V _{GATE}	60/180 mA - Source/Sink	70	SOIC-8

For more information please contact your local sales support at www.onsemi.com.

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