

Product Overview

FL7921R: Integrated Critical-Mode PFC and Quasi-Resonant Current-Mode PWM Lighting Controller

For complete documentation, see the data sheet.

The highly integrated FL7921R combines a Power Factor Correction (PFC) controller and a Quasi-Resonant PWM controller. Integration provides cost-effective design and allows for fewer external components.

For PFC, FL7921R uses a controlled on-time technique to provide a regulated DC output voltage and to perform natural power factor correction. An innovative THD optimizer reduces input current distortion at zero-crossing duration to improve THD performance. The PFC function is always on regardless of the PWM stage load condition to ensure that high PF can be achieved at light load condition.

For PWM, FL7921R provides several functions to enhance power system performance: valley detection, green-mode operation, high / low line over-power compensation. Protection functions include secondary-side open-loop and over-current with auto-recovery protection, external recovery triggering, adjustable over-temperature protection through the RT pin and external NTC resistor, internal over-temperature shutdown, VDD pin OVP, DET pin over-voltage for output OVP, and brown-in / out for AC input voltage UVP. All protections are auto recovery mode except PWM current sense pin open protection.

Features

- Integrated PFC and Flyback Controller
- Critical-Mode PFC Controller
- Zero-Current Detection for PFC Stage
- Quasi-Resonant Operation for PWM Stage
- Internal Minimum tOFF 8 μ s for QR PWM Stage
- Internal 9.5 ms Soft-Start for PWM
- Brownout Protection
- High / Low Line Over-Power Compensation
- Auto Recovery Over-Current Protection
- Auto Recovery Open-Loop Protection

For more features, see the data sheet

Part Electrical Specifications

Product	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
FL7921RMX	Pb-free Halide free	Active	PFC and PWM(QR Flyback) Combo	50	500	19 V _{GATE}	80/40 ns - Rise/Fall time	Variable	SOIC-16

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

Created on: 5/19/2019