

FSL4110LR

1000V Integrated Power Switch with Line OVP and no bias winding for 9Watt offline flyback converters

Product Overview

For complete documentation, see the data sheet.

The FSL4110LR is an integrated pulse width modulation (PWM) controller and 1000 V avalanche rugged SenseFET specifically designed for high input voltage offline Switching Mode Power Supplies (SMPS) with minimal external components. VCC can be supplied through integrated high-voltage power regulator without auxiliary bias winding.

The integrated PWM controller includes a fixed-frequency oscillator, Under-Voltage Lockout (UVLO), Leading-Edge Blanking (LEB), optimized gate driver, soft-start, temperature-compensated precise current sources for loop-compensation, and variable protection circuitry.

Compared with a discrete MOSFET and PWM controller solution, the FSL4110LR reduces total cost, component count, PCB size, and weight; while simultaneously increasing efficiency, productivity, and system reliability. This device provides a basic platform for cost-effective design of a flyback converter.

Features

- Built-in Avalanche Rugged 1000 V SenseFET
- Precise Fixed Operating Frequency: 50 kHz
- VCC can be supplied from either bias-winding or self-biasing.
- Soft Burst-Mode Operation Minimizing Audible Noise
- Random Frequency Fluctuation for Low EMI
- Pulse-by-Pulse Current Limit
- Various Protection Functions: Overload Protection (OLP), Over-Voltage Protection (OVP), Abnormal Over-Current Protection (AOCP), Internal Thermal Shutdown (TSD) with Hysteresis. Under-Voltage Lockout (UVLO) and Line Over-Voltage Protection (LOVP) with Hysteresis.
- Built-in Internal Startup and Soft-Start Circuit
- Fixed 1.6 s Restart Time for Safe Auto-Restart Mode of All Protections

Applications

- Industrial Motor
- Motion Control - Industrial Motor
- Set Top Boxes
- Smart Grid
- Uninterruptible Power Supply

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Control Mode	f_{sw} Typ (kHz)	f_{jitter} Typ (%)	Stand-by Mode	$R_{DS(on)}$ Typ (Ω)	V_{DSS} Max (V)	I_{peak} (mA)	HV Start-up Min (V)	DS S (mA)	UV LO	Short Circuit Protection	Over Power Compensation	Brown-out	Latch	Package Type
FSL4110LRLX	0.7966	Pb H	Active	Current Mode	50			10	1000	520	Yes		Yes	Yes	Yes			PDI P7 MIN US PIN 6 GW
FSL4110LRN	0.68	Pb H	Active	Current Mode	50			10	1000	520	Yes		Yes	Yes	Yes			PDI P-7