

## Product Overview

### FSL206MR: 650V Integrated Power Switch with Line UVP and no bias winding for 7Watt offline flyback converters

For complete documentation, see the data sheet.

The FSL206MR integrates a Pulse Width Modulator (PWM) and SenseFET is specifically designed for high-performance offline Switch Mode Power Supplies (SMPS) while minimizing external components. This device integrates high-voltage power regulators that combine an avalanche-rugged SenseFET with a current mode PWM control block. The integrated PWM controller includes: a 7.8V regulator, eliminating the need for an auxiliary bias winding; Under-Voltage Lockout (UVLO) Protection; Leading-Edge Blanking (LEB); an optimized gate turn-on/turn-off driver; EMI attenuator; Thermal Shutdown (TSD) protection; temperature-compensated precision current sources for loop compensation; soft-start during startup; and fault-protection circuitry such as Overload Protection (OLP), Over-Voltage Protection (OVP), Abnormal Over-Current Protection (AOCP) and Line Under-Voltage Protection (LUVP). The internal high-voltage startup switch and the Burst-Mode operation with very low operating current reduce the power loss in Standby Mode. As a result, it is possible to reach a power loss of 150mW with no bias winding and 25mW (for FSL206MR) or 30mW (for FSL206MRBN) with a bias winding under no-load conditions when the input voltage is 265VAC.

### Features

- Internal Avalanche Rugged SenseFET: 650V• Precision Fixed Operating Frequency: 67kHz• No-Load <math>\leq 150\text{mW}</math> at 265VAC without Bias Winding;
- <math>\leq 25\text{mW}</math> with Bias Winding for FSL206MR
- <math>\leq 30\text{mW}</math> with Bias Winding for FSL206MRBN• No Need for Auxiliary Bias Winding• Frequency Modulation for Attenuating EMI• Line Under-Voltage Protection (LUVP)• Pulse-by-Pulse Current Limiting• Low Under-Voltage Lockout (UVLO)• Ultra-Low Operating Current: 300 $\mu\text{A}$ • Built-In Soft-Start and Startup Circuit• Various Protections: Overload Protection (OLP), Over-Voltage Protection (OVP), Thermal Shutdown(TSD), Abnormal Over-Current Protection (AOCP), Auto-Restart Mode for All Protections

### Applications

- Motion Control - Home Appliance
- Motion Control - Industrial Motor
- Smart Grid
- Smart Meter
- DVD/Set Top Boxes

### Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Control Mode	$f_{sw}$ Typ (kHz)	$f_{jitter}$ Typ (%)	Stand-by Mode	$R_{DS(on)}$ Typ ( $\Omega$ )	$V_{DSS Max}$ (V)	$I_{Peak}$ (mA)	HV Start-up Min (V)	DSS (mA)	UVLO	Short Circuit Protection	Over Power Compensation	Brown-out	Latch	Package Type
FSL206MRBN	0.3733	Pb-free Halide free	Active	Current Mode	67			14	650	600	Yes	1.9	Yes	Yes		Yes	No	PDIP-8
FSL206MRLX	0.4107	Pb-free Halide free	Active	Current Mode	67			14	650	600	Yes	1.9	Yes	Yes		Yes	No	PDIP-8 GW
FSL206MRN	0.3337	Pb-free Halide free	Active	Current Mode	67			14	650	600	Yes	1.9	Yes	Yes		Yes	No	PDIP-8

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