

Product Overview

FSQ0565RQ: 650V Integrated Power Switch with Quasi-Resonant Operation for 60Watt offline flyback converters

For complete documentation, see the data sheet.

A Quasi-Resonant Converter (QRC) generally shows lower EMI and higher power conversion efficiency than a conventional hard-switched converter with a fixed switching frequency. The FSQ-series is an integrated Pulse-Width Modulation (PWM) controller and SenseFET specifically designed for quasi-resonant operation and Alternating Valley Switching (AVS). The PWM controller includes an integrated fixed-frequency oscillator, Under-Voltage Lockout (UVLO), Leading-Edge Blanking (LEB), optimized gate driver, internal soft-start, temperature-compensated precise current sources for a loop compensation, and self-protection circuitry. Compared with a discrete MOSFET and PWM controller solution, the FSQ-series can reduce total cost, component count, size, and weight; while simultaneously increasing efficiency, productivity, and system reliability. This device provides a basic platform for cost-effective designs of quasi-resonant switching flyback converters.

Features

- Optimized for Quasi-Resonant Converter (QRC)
- Low EMI through Variable Frequency Control and AVS(Alternating Valley Switching)
- High-Efficiency through Minimum Voltage Switching
- Narrow Frequency Variation Range over Wide Load and Input Voltage Variation
- Advanced Burst-Mode Operation for Low Standby Power Consumption
- Simple Scheme for Sync Voltage Detection
- Pulse-by-Pulse Current Limit
- Various Protection functions: Overload Protection(OLP), Over-Voltage Protection (OVP), Internal Thermal Shutdown (TSD) with Hysteresis, Output Short Protection (OSP)
- Under-Voltage Lockout (UVLO) with Hysteresis
- Internal Startup Circuit

For more features, see the data sheet

Applications

- LCD TV

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)	DSS (mA)	UVLO	Short Circuit Protection	Over Power Compensation	Brown-out	Latch	Package Type
FSQ0565RQWDTU	1.167	Pb-free Halide free non AEC-Q and PPAP	Active	Current Mode	Variable			1.76	650	3000	Yes		Yes	Yes			No	TO-220-6

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

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