

Advanced modular synchronous PWM controller

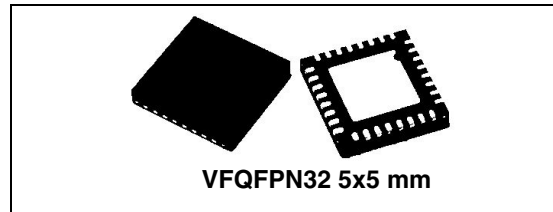
Data Brief

Features

- High current embedded drivers with programmable supply voltage
- Operative supply voltage range: 4.5 V to 16 V with selectable UVLO threshold
- Adjustable output voltage: 0.6 V reference
- 0.8 % accuracy over line and temperature variations (0 °C to 125 °C)
- External reference tracking
- Integrated remote sense amplifier
- Current sharing bus control
- DCM to optimize efficiency at light-load
- Hot-plug control capability
- Margin mode and synchronization
- Pre-bias start-up management
- Thermal shut-down
- Over current protection thermal compensation
- Programmable over/under voltage protection
- FB disconnection protection
- Power good output
- Programmable oscillator: 200 kHz to 1 MHz
- VFQFPN32 package; 5x5 mm

Applications

- High-performance DC-DC modules
- Redundant power supply with hot-plug
- niPoL converters



Description

L6733 is a single-phase PWM controller designed to drive N-channel power MOSFETs in a synchronous rectified buck topology also providing DCM operations to optimize efficiency in light-load conditions.

The device is specifically designed to implement redundant and parallelable DC-DC converters. Current-sharing bus control and OR-ing fet driving circuitry are embedded featuring proper protection management. Synchronization is also available helping further in reducing input capacitance in paralleled converters. Programmable margin mode control through single pin allow saving external logic.

L6733 provides an integrated 0.6 V reference allowing regulating output voltages with ± 0.8 % accuracy over line and temperature variations (0 °C to 125 °C) recovering connector and PCB losses through the remote amplifier provided. Programmable dual level over current protection as well as over and under voltage protection are provided. Current information is monitored across the main inductor DCR saving the use of expensive and space-consuming sense resistors.

Oscillator is internally fixed to 200 kHz and adjustable up to 1 MHz.

Table 1. Device summary

Order codes	Package	Packing
L6733	VFQFPN32	Tube
L6733TR		Tape and reel

1 Revision history

Table 2. Document revision history

Date	Revision	Changes
07-Mar-2008	1	Initial release

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

UNLESS EXPRESSLY APPROVED IN WRITING BY AN AUTHORIZED ST REPRESENTATIVE, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER'S OWN RISK.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2008 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com