

2/3/4 phase buck controller for VR10, VR11 and AM2 processor applications

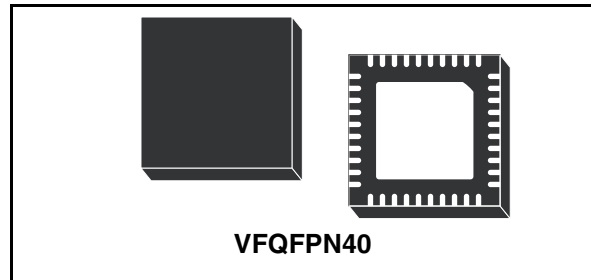
Data Brief

Features

- LTB Technology® enhances load transient response
- 2 to 4 scalable phase operation
- Dual-edge asynchronous architecture
- Flexible driver support
- 7/8 bit programmable output - VR10/11 DAC
- 6 bit programmable output - AMD AM2 DAC
- 0.5 % output voltage accuracy
- Full-differential current sense across DCR
- Integrated remote sense buffer
- Feedback disconnection protection
- Adjustable oscillator from 100 kHz to 1 MHz
- LSLess startup to manage pre-biased output
- Programmable soft-start
- Threshold sensitive enable pin for VTT sensing
- VFQFPN40 7x7 mm package

Applications

- High-Current VRM / VRD for desktop / server / workstation CPUs
- Graphic cards
- Low-voltage, high-current power supplies
- High-density DC-DC converters



Description

L6755 is a two-to-four phase controller designed to power Intel's most demanding Processors and, most in general, low-voltage high-current power supplies. The device features LTB technology® to provide the fastest response to load transients thus minimizing the output filter composition.

L6755 embeds selectable DAC: Output Voltage is programmable up to 1.6000 V (Intel VR10 and VR11 DACs) or up to 1.550 V (AMD 6bit DAC) managing DVID transitions with ± 0.5 % output voltage accuracy over line, load and temperature variations.

The device assures fast protection against load over current and under / over voltage. Feedback disconnection prevents from damaging the load in case of misconnections in the system board.

Low-side-less start-up allows soft-start over pre-biased output avoiding dangerous current return through the main inductors as well as negative spike at the load side.

L6755 is available in VFQFPN40 7x7 mm package.

Table 1. Device summary

Order code	Package	Packing
L6755	VFQFPN40	Tube
L6755TR	VFQFPN40	Tape and reel

1 Revision history

Table 2. Document revision history

Date	Revision	Changes
15-Feb-2008	1	Initial release.

Obsolete Product(s) - Obsolete Product(s)

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