

8PSK/QPSK direct conversion tuner IC

Features

- Direct conversion
- Input range 950 to 2150 MHz
- Low pass filter bandwidth 5 to 36 MHz
- Fully integrated LO and PLL
- Differential I/Q outputs
- Buffered XO output to clock other devices
- Low external component count
- Low power consumption
- 2-wire I²C serial interface
- Low-cost integrated ZIF tuner for DVB-S2 and DIRECTV[®], VSAT and internet through satellite applications
- QPSK/8PSK/16APSK and 32APSK support
- Simple interface to ST's satellite demodulator devices
- Low phase noise, excellent linearity and high LO harmonics rejection
- VFQFPN2 5x5x1.0 32 pitch package



Figure 1. Functional block diagram

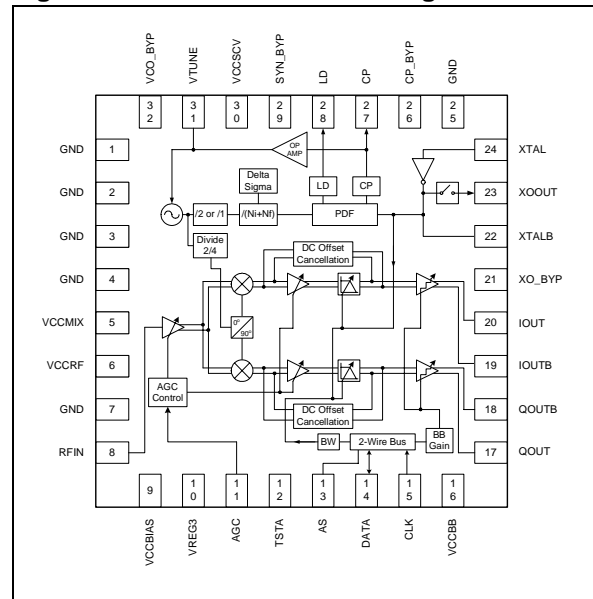


Table 1. Device summary

| Order code | Packing |
|------------|-----------------------|
| STB6100 | Standard tray version |
| STB6100T | Tape and reel |

1 Description

The STB6100 ASIC is a highly integrated, low-cost direct conversion (zero IF) tuner IC for DVB-S2 broadcast satellite applications.

This device includes an LNA, down-converting mixers, baseband low-pass filters, gain control, on-chip VCO and a low noise PLL. Its wide gain control range is well suited for low symbol rate applications.

The STB6100 is controlled by a simple two-wire interface and has been designed to minimize the external bill of materials to reduce manufacturing costs and to simplify the board layout. The reduced component count ensures greater system reliability leading to increase consumer satisfaction.

The DVB-S2 standard increases the capacity of satellite broadcasts by as much as 30%, so enabling the effective deployment of high data rate applications such as high definition TV and broadband internet. Packaged in VFQFPN2 5x5x1.0 32 pitch 0.50 package, it is ideal for low cost DBS design.

2 ECOPACK®

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: www.st.com. ECOPACK® is an ST trademark.

3 Revision history

Table 2. Document revision history

| Date | Revision | Changes |
|--------------|----------|-----------------------------|
| 05-Sept-2004 | 1 | Initial release. |
| 21-Apr-2009 | 2 | Supported features updated. |

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.

© 2009 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 - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com

