



256 x 72 x 4-bit OLED passive matrix controller/driver

Data Brief

Features

- Supports monochrome, passive-matrix OLED displays in different formats:
 - 256 x 72 black & white
 - 256 x 72 x 2-bits /4 levels of gray
 - 256 x 72 x 4-bits /16 levels of gray
 - 256 x 36 x 6-bits / 64 levels of gray
 - 128 x 72 x 6-bits / 64 levels of gray
- On-chip DC/DC step-up converter
- Display power supply up to 25 V
- Device power supply: 3.0 to 3.6 V
- Low-power consumption suitable for battery-operated systems
- Column source current capability: 800 μ A, max.
- Row sink current capability: 110 mA, max.
- On-chip oscillator
- Programmable gamma correction
- Programmable display multiplexing
- Two brightness control registers of 128 steps each
- 32 steps dimmer control
- One time programmable (OTP) fuse ROM for key configuration parameters
- Dual scan, master/slave capability
- Selectable 8-bit parallel as well as serial peripheral interfaces

Description

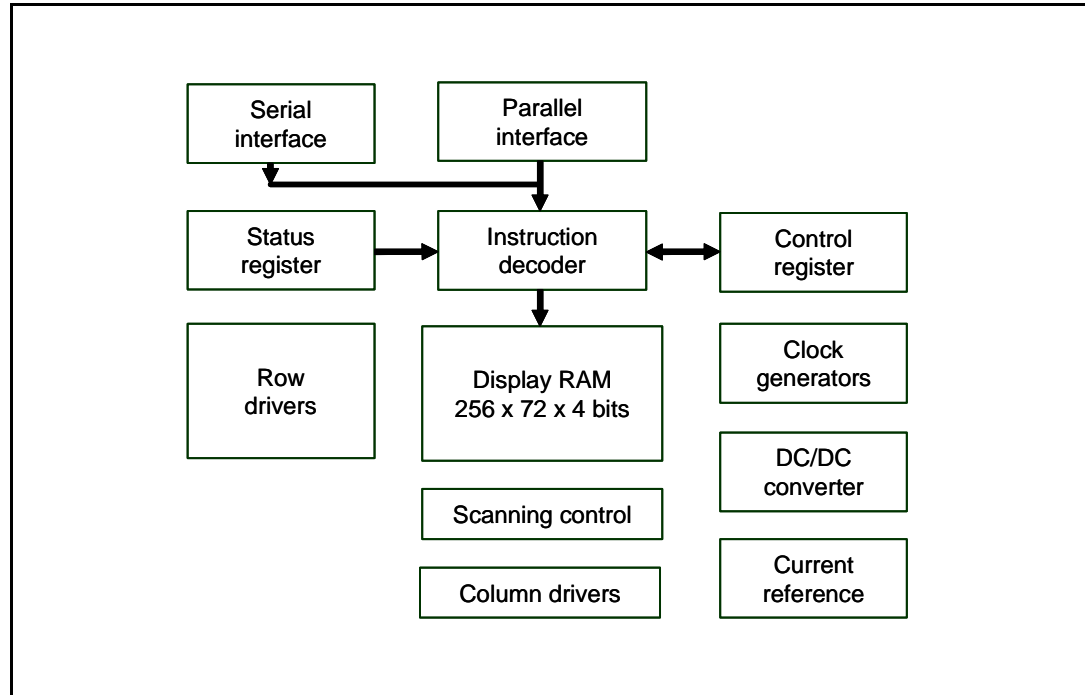
The STV8105 is a low-power, controller/driver “combo” IC for OLED displays. The STV8105 supports 256 columns by 72 rows with 16 levels of gray for monochrome and 2 x 128 columns by 72 rows with 16 levels of gray for “two” color displays. It can control a display of 128 columns by 72 rows or 256 columns by 36 rows with 64 levels of gray in monochrome mode.

The STV8105 provides all necessary functions in a single chip, including on-chip supply control and bias current generators, resulting in a minimum of external components and in very low-power consumption.

The STV8105 communicates with the system via fully configurable interfaces (parallel or serial) to ease interfacing with the host microcontroller. The STV8105 has a set of command and control registers that can be addressed by these interfaces.

Table 1. Key features and benefits

Features	Benefits
Column source current capability up to 800 μ A	Allow high brightness displays
On chip oscillator - Embedded DC/DC	Reduce system components

Figure 1. Functional block diagram

Ordering information

Table 2. Order codes

Part number	Temp range, °C	Package	Packing
STV8105/WPB	-25 to +125	bumped die	waffle pack

Revision history

Table 3. Document revision history

Date	Revision	Changes
15-Jan-2007	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.

© 2007 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