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

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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  $\mu$ 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**

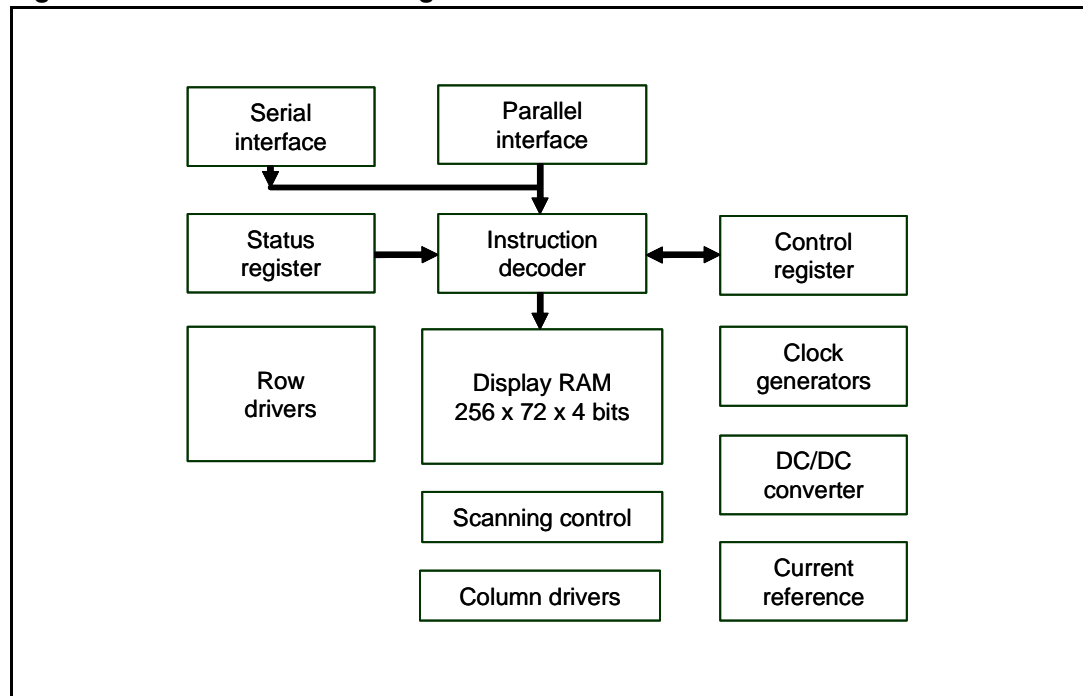
The STV8105 is a low-power, controller/driver “combo” IC for OLED displays. The STV8105 supports 256 columns by 72 rows with 16 levels of gray for monochrome and 2 x 128 columns by 72 rows with 16 levels of gray for “two” color displays. It can control a display of 128 columns by 72 rows or 256 columns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

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