

## DA8620 QVGA PMOLED driver

Dialog Semiconductor's DA8620 represents the very latest generation of PMOLED drivers and includes SmartXtend™ technology for high resolution panels.

DA8620 is a passive matrix organic light emitting diode (PMOLED) driver supporting resolutions up to QVGA in portrait mode (320 scan lines).

DA8620 features SmartXtend™ technology. SmartXtend™ is a bundle of driving techniques including Dialog's unique multi-line addressing scheme, pre-charge schemes as well as an innovative anode current architecture.

Using these techniques SmartXtend™ enables PMOLED panels to be used as the high-resolution main display in mobile phones and other portable devices.

The DA8620 integrates all important functions required for driving high resolution PMOLED panels.

Dialog's unique multiline addressing scheme reduces peak current by up to 50%, extends the life time of OLED panels while maintaining brightness.

Accurate anode current matching of 0.25%, gives excellent picture uniformity, which is a key attribute as resolution and color depth increases.

An extended set of digital interfaces allows maximum flexibility in the application.

With integrated oscillator, OTP programmable frame rate, brightness control and 5 different power modes, DA8620 is an ideal device to be used in power sensitive handheld applications.

DA8620 is shipped in bare die form with gold bumps, suitable for mounting as chip-on-flex or chip-on-glass.



### Features

- Resolution: 240RGB x 320 (Portrait)
- SmartXtend™ technology
- 24bits Display RAM (16M true colors)
- Separate gamma for R,G & B
- Ambient light sensing with 10 different levels of brightness
- Integrated oscillator
- Programmable frame rate
- Runs video up to 30 frames per second (Full frame)
- Supply removal detection circuit
- 5 Power Modes
- Fully OTP configurable (including Gamma)
- Bumped die package for chip-on-flex or chip-on-glass

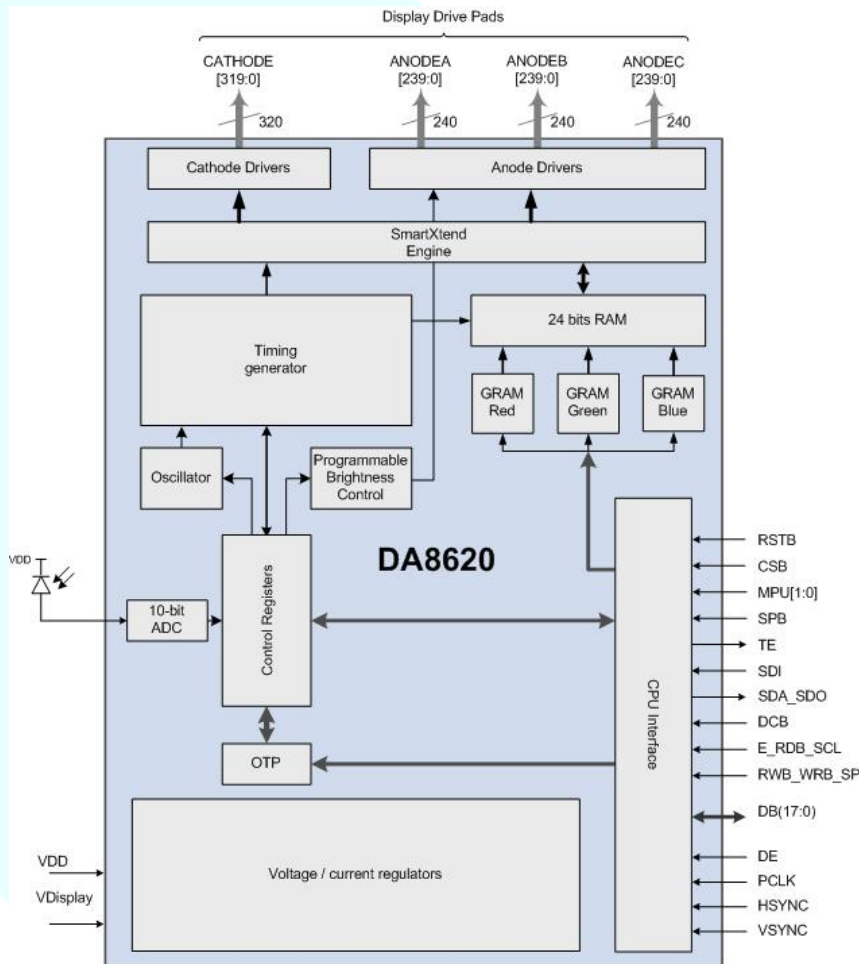
### Interfaces

- 18/16/8 bits bus RGB Interface (MIPI DPI compatible)
- 16/8 bits bus CPU I/F(8080/68000)
- Serial 3,4,5 lines
- I2C
- MIPI DBI A, B, and C
- 100%MIPI DCS compliant

### Applications

- Mobile phone main display
- Transparent OLED display
- DSC, PDA and other handheld applications

## Block Diagram



### Dialog Semiconductor worldwide offices

#### Germany (Headquarters)

Tel: (+49) 7021 805-0

Fax: (+49) 7021 805-100

#### Japan

Tel: (+81) 3 3769 8123

Fax: (+81) 3 3769 8124

#### Korea

Tel: (+82) 2 6007 2303

Fax: (+82) 2 6007 2001

#### Taiwan

Tel: (+886) 37 598 166

Fax: (+886) 37 595 026

#### USA

Tel: (+1) 888 809 3816

Fax: (+1) 408 328 9275

#### United Kingdom

Tel: (+44) 1793 757700

Fax: (+44) 1793 757800

**Email:** [enquiry@diasemi.com](mailto:enquiry@diasemi.com)

**Web:** [www.dialog-semiconductor.com](http://www.dialog-semiconductor.com)