UC1602(i)

Single-Chip, Ultra-Low Power

65COM x 102SEG
Passive Matrix LCD Controller-Driver

INTRODUCTION

UC1602(i) is an advanced high-voltage mixed-signal CMOS IC, especially designed for the display needs of ultra-low power hand-held devices.

This chip employs UltraChip's unique DCC (Direct Capacitor Coupling) driver architecture to achieve near crosstalk free images.

In addition to low power COM and SEG drivers, UC1602(i) contain all necessary circuits for high-V LCD power supply, bias voltage generation, timing generation and graphics data memory.

Advanced circuit design techniques are employed to minimize external component counts and reduce connector size while achieving extremely low power consumption.

MAIN APPLICATIONS

- Cellular Phones, Smart Phones, and other battery operated devices and/or portable Instruments

FEATURE HIGHLIGHTS

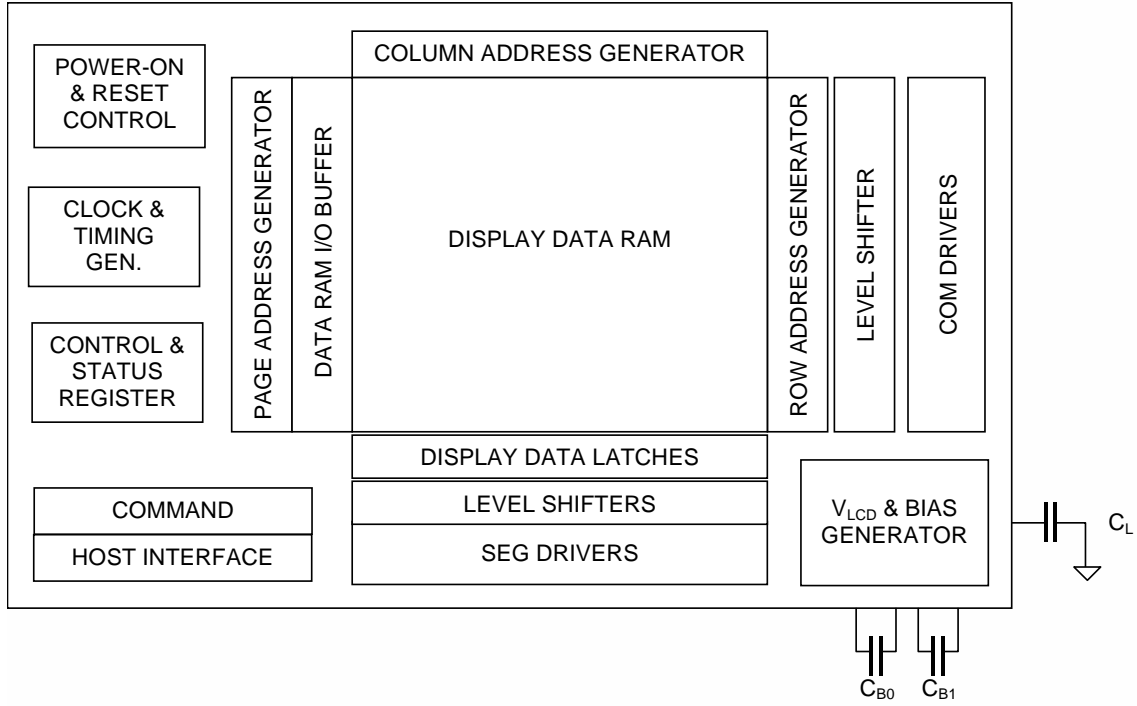- Single chip controller-driver supports 65 COM x 102 SEG LCD.

- Support industry standard 8-bit parallel interface (8080 or 6800), 4-wire SPI (S8), and 2-wire I^2C serial interface.

- Two multiplexing rates (49, 65).

- Self-configuring 6x charge pump with on-chip pumping capacitor requires only 3 external capacitors to operate.

- Flexible data addressing/mapping schemes to support wide ranges of software models and LCD layout placements.

- Software programmable 4 temperature compensation coefficients.

- On-chip bypass capacitor for V_{LCD} makes V_{LCD} bypass capacitor optional for small LCD panels.

- On-chip Power-ON Reset and Software RESET commands, make RST pin optional.

- V_{DD} (digital) range: 2.4V ~ 3.3V
  V_{DD} (analog) range: 2.4V ~ 3.3V
  LCD V_{OP} range: 4.5V ~ 10.5V

- Available in gold bump dies
  Bump pitch: 55µM min.
  Bump gap: 20µM min.

ULTRACHIP

High-Voltage Mixed-Signal IC   ©1999-2003

BLOCK DIAGRAM

Product Specifications