S-MOS
S Y S T E M S

A Seiko Epson Affiliate

PRODUCT BRIEF

CONFIDENTIAL

GRAPHICS

SED1565

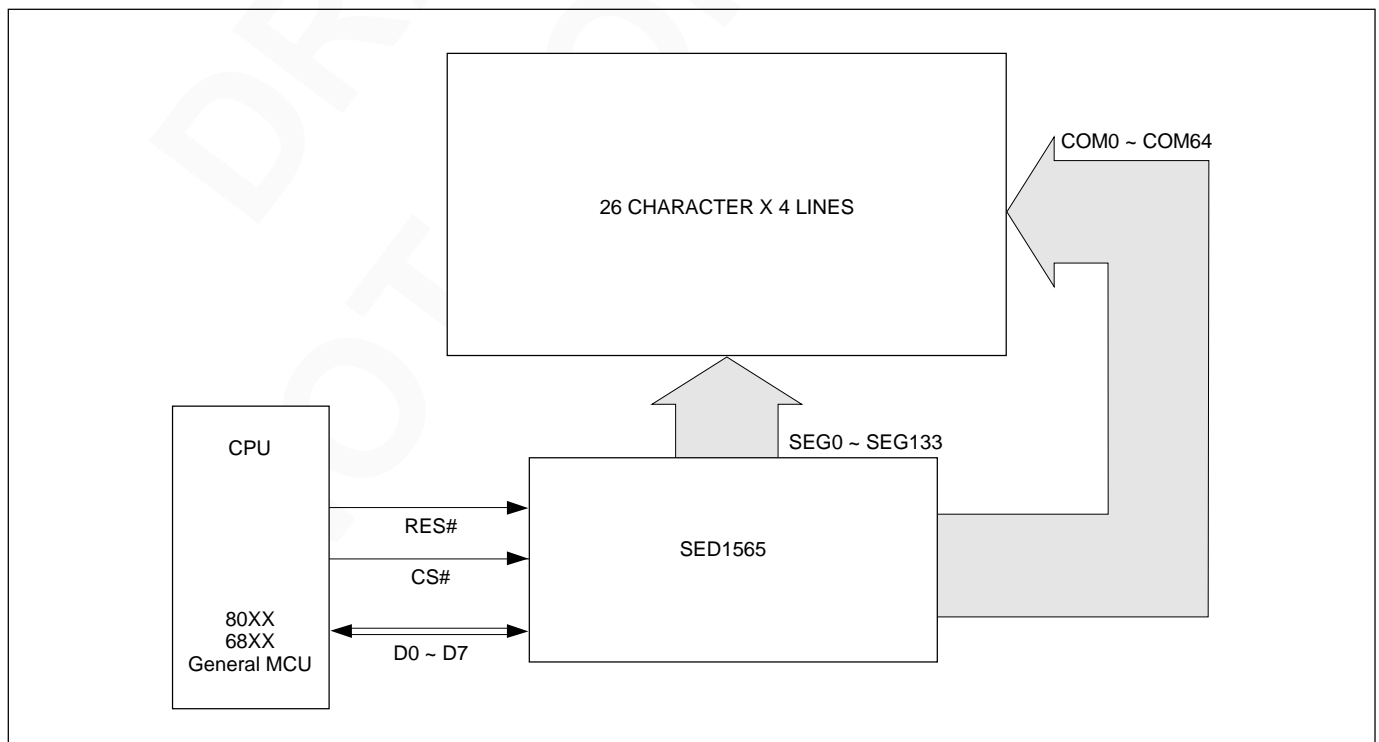**October 1996**

LCD DRIVER-CONTROLLER

■ DESCRIPTION

The SED1565 is an intelligent CMOS LCD driver-controller with the ability to drive alphanumeric and graphic displays. The SED1565T communicates with a high speed microprocessor such as the Intel 80XX family or the Motorola 68XX family through a serial or 8-bit parallel interface. It stores the data sent from the microprocessor in the built-in display data RAM (132 x 64 bits) and generates an LCD drive signal.

The device incorporates an internal DC/DC converter to generate the negative voltage needed for LCD contrast. The controller also features software contrast adjustment by command setting. The SED1565 is available in TAB form and gold bump DIE. Expected sampling date is Q1/97.
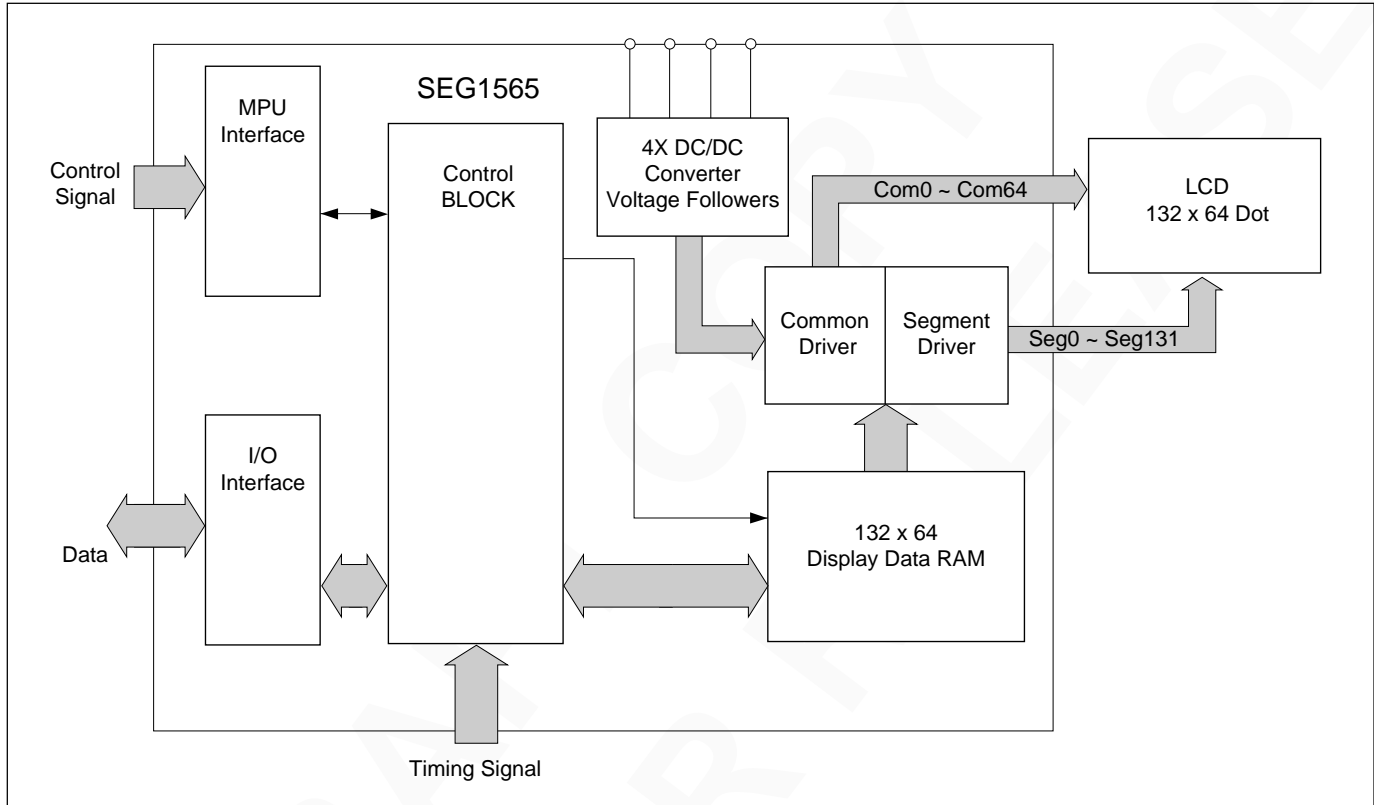
■ FEATURES

- On-chip LCD driving circuitry
- One static icon drive
- Duty cycle: 1/33, 1/49, 1/65
- Compatible with Intel and Motorola MPUs
- Selectable 8-bit parallel/serial interface
- On-chip display data RAM (132 x 64 bits)
- On-chip x 4 DC/DC converter for LCD voltage
- On-chip oscillator, no external resistor required

- 64-levels of contrast adjustment by software
- Selectable output configuration
- 2.4V to 6.0V supply voltage
- 4.5V to 16V LCD voltage
- −40°C to +85°C temperature range
- Software compatible with SED1560 series
- Estimated power 120μA @ $V_{SS} = 3V$, $V_5 = 11V$

■ BLOCK DIAGRAM

■ BLOCK DIAGRAM

■ COMMAND FUNCTIONS

- Display data read/write
- Display on/off
- Display regular/inverted
- Page address set
- Static indicator display on/off

- Display start line set
- Column address set
- Status read
- Display all point on/off
- Power saver

- LCD bias set
- Electronic volume
- Common output status select
- Read/modify/write
- Segment driver direction select