

SED15B1 Series

Dot Matrix LCD Driver

Preliminary

- Support up to 65×132 display
- Built-in Power Supply Circuit for LCD
- Few External Parts Required

■ OVERVIEW

The SED15B1 series is a single-chip liquid crystal display (=LCD) driver for dot-matrix LCDs that can be connected directly to a microprocessor (=MPU) bus. It accepts 8-bit parallel or serial display data from a MPU, stores it in an on-chip display data RAM (=DDRAM), and generates a LCD drive signal independent of the MPU clock.

The use of the on-chip DDRAM of 65×132 bits and a one-to-one correspondence between LCD panel pixel dots and on-chip DDRAM bits offer high flexibility in graphic display.

The SED15B1 series does not need external operation clock for DDRAM read/write operations, and has a on-chip LCD power supply circuit featuring very low current consumption with few external components, and moreover has a on-chip CR oscillator circuit.

Consequently, the SED15B1 can be realize a high-performance handy display system with a minimum current consumption and the fewest components.

■ FEATURES

- Direct display by DDRAM :
 - Bit data of DDRAM “0” a dot of display is OFF
 - “1” a dot of display is ON (at Display normal)
- DDRAM capacity: $65 \times 132 = 8580$ bits
- High-speed 8-bit Serial interface/8-bit MPU interface (The chip can be connected directly to both the 8080-series MPUs and the 6800-series MPUs) .
- Many command functions:
 - Display ON/OFF, Display normal/reverse, Display all points ON/OFF,
 - Page address set, Column address set, Display start line address set,
 - Segment/Common driver direction select,
 - Display data Read/Write, Read modify write,
 - Power control set, Electronic contrast control, LCD bias set,
 - Power saver, Reset
- On-chip low power supply circuit for LCD driving voltage generation
 - Booster circuit (with boost ratios of Double/Triple/Quadruple/Quintuple)
 - Voltage regulator circuit (with high-accuracy electronic voltage adjustment function)
 - Voltage follower (with V_1 to V_4 voltage dividing resistors)
- On-chip CR oscillation circuit (external clock can also be input.)
- Very Low power consumption

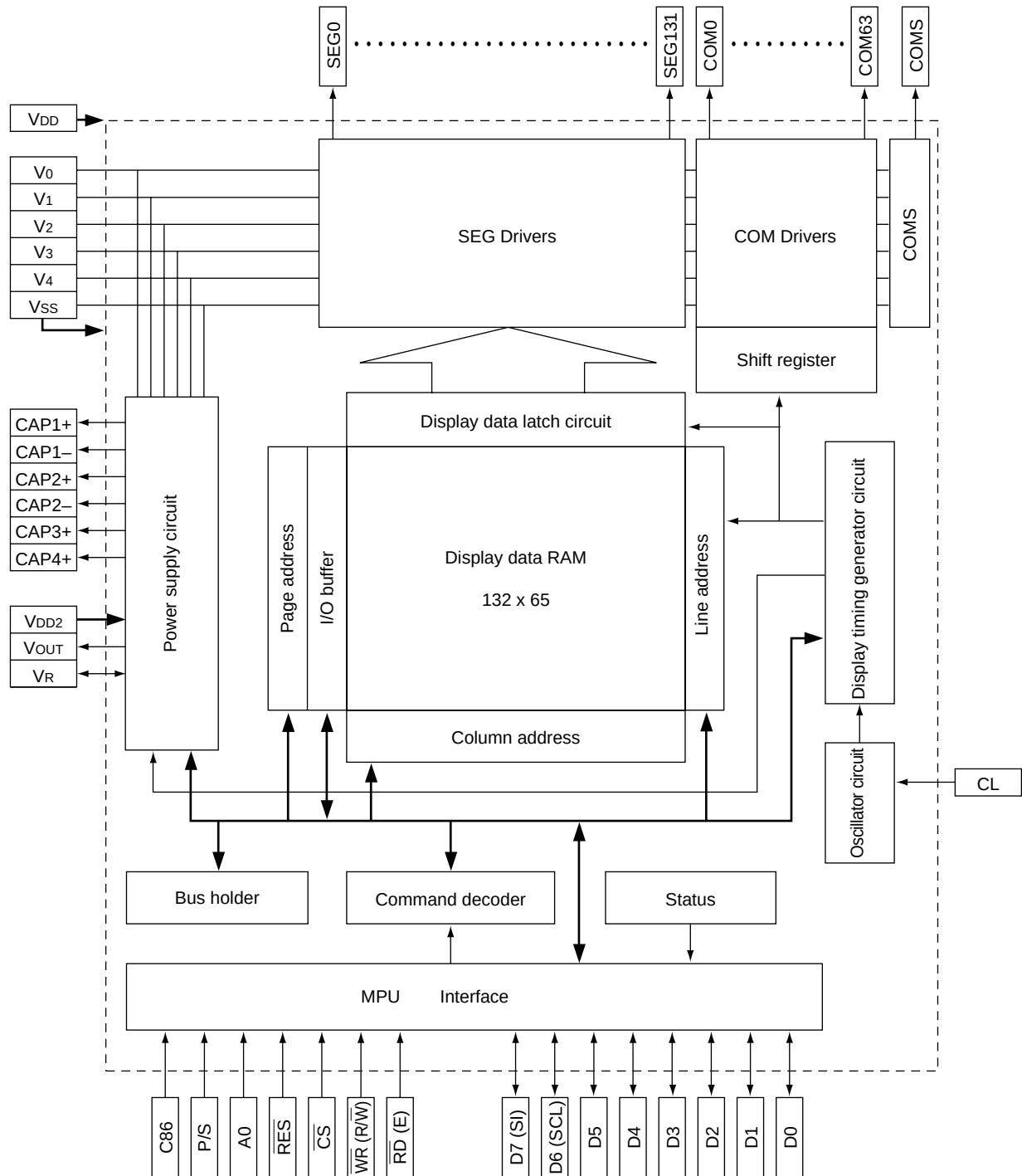
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- Power supply:
Logic power supply : $V_{DD}-V_{SS} = 1.7$ to 3.6 V
Booster reference supply: $V_{DD2}-V_{SS} = 2.6$ to 3.6 V
LCD driving power supply: $V_0-V_{SS} = (TBD)V$
- Wide range of operating temperatures -40 to 85°C
- CMOS process
- Package: Au bump chip and TCP
- These ICs are not designed for strong radio/optical activity proof.

Series Specifications

Product Name	Duty	Bias	SEG Dr	COM Dr	VREG Temperature Gradient	Shipping Forms
SED15B1D0B	1/65	1/9,1/7	132	65	$-0.05\%/^{\circ}\text{C}$	Bare Chip

■ BLOCK DIAGRAM



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