EPSON

Preliminary

SED15B1 Series

Dot Matrix LCD Driver

- 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 onchip 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 × 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 adjustmenut function) Voltage follower (with V1 to V4 voltage dividing resistors)
- On-chip CR oscillation circuit (external clock can also be input.)
- Very Low power consumption

• Power supply:

Logic power supply : VDD-VSS = 1.7 to 3.6 V Booster reference supply: VDD2-VSS = 2.6 to 3.6 V LCD driving power supply: V0-VSS = (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%/°C	Bare Chip

BLOCK DIAGRAM



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SEIKO EPSON CORPORATION

ELECTRONIC DEVICES MARKETING DIVISION

IC Marketing & Engineering Group

ED International Marketing Department I (Europe, U.S.A) 421-8 Hino, Hino-shi, Tokyo 191-8501, JAPAN Phone: 042-587-5812 FAX: 042-587-5564

ED International Marketing Department II (ASIA) 421-8 Hino, Hino-shi, Tokyo 191-8501, JAPAN Phone: 042-587-5814 FAX: 042-587-5110 Electronic devices information on the Epson WWW server. http://www.epson.co.jp/device/

