EPL43102

43 Com / 102 Seg LCD Driver

Product Specification

DOC. VERSION 1.9

ELAN MICROELECTRONICS CORP.

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Specification Revision History

Doc. Version	Revision Description	Date
0.1	Initial version	2000/11/20
0.2	Added 1/3 and 1/3.5 bias	2001/02/15
0.3	1. Added one more VDD and VSS pad. 2. Modified the Pad sequence and configuration.	2001/03/02
0.4	Modified the DC and AC characteristics.	2001/07/17
0.5	1. Added pin configuration 2. Added program example 3. Modified the DC characteristics	2001/07/25
1.1	Modified the operating temperature range from –30 to 80°C	2001/09/07
1.2	Added COG package	2003/01/06
1.3	Added TEST pin description	2003/04/25
1.4	Modified the reading timing of /WR	2003/08/04
1.5	Adjusted the Data RAM arrangement	2003/12/29
1.6	1. Modified the table on the relationship between duty ratio and common output 2. Modified the A0 voltage level of Display ON/OFF instruction	2004/02/27
1.7	1. Added a Note on the M/S description under System Control section. 2. Modified the table for Common and Segment Driver Circuits.	2004/08/18
1.8	1. Modified the COG part no. to EPL43102GH 2. Modified the TEST pin description	2006/01/20
1.9	Added Tray information	2006/04/13

1 General Description

The EPL43102 is a driver and controller LSI for graphic dot-matrix liquid crystal display systems. It can be interfaced with the MPU via serial or 8-bit interface. It contains 43 common and 102 segment driver circuits. With one chip, it is possible to drive a graphic display system with a maximum of 102 × 43 dots.

2 Features

- Direct Correspondence between Display Data RAM and LCD Pixel
- Display Data RAM : 102 × 43 = 4386 bits
- 145 LCD Drivers : 102-seg segment drivers, 42-common drivers and 1-icon
- Serial Interface (SPI) or 8-Bit Parallel Interface Mode (80-series, 68-series MPU)
- On-chip oscillator circuit
- Multi-chip operation (Master, Slave) available
- Programmable Duty Ratio :

Duty Ratio	Common	Segment
1: 42 (+ ICON)	42 (+ ICON)	102
1: 36 (+ ICON)	36 (+ ICON)	102
1: 32 (+ ICON)	32 (+ ICON)	102
1: 24 (+ ICON)	24 (+ ICON)	102
1: 16 (+ ICON)	16 (+ ICON)	102
1: 8 (+ ICON)	8 (+ ICON)	102

Note: ICON = "0" : Pin disable
ICON = "1" : Pin enable

- Selectable LCD driving bias level:
  1/3, 1/3.5, 1/4, 1/4.5, 1/5, 1/5.5, 1/6, 1/6.5, 1/7, 1/7.5, 1/8 bias
- Selectable LCD display clock frequency
- Electronic contrast control functions (64 steps)
- Built-in Instruction Set: Display data read/write, Display on/off, Inverse display, Page address set, Common address set, LCD display contrast control, Set Sleep mode, Standby mode, etc.
- Operating Voltage range:
  Supply voltage: 2.2 to 5.5 V
  LCD driving voltage: 4.0 to 15.0 V