

LH155P

DESCRIPTION

The LH155P is an LCD driver with a built-in RAM suitable for driving medium/small scale dot-matrix LCD panels, and which is capable of being connected to the bus line of a microcomputer. The LH155P stores in the RAM the 8-bit parallel or serial display data transferred from the microcomputer and generates LCD drive signals. Since the LH155P features a bit-map type LCD driver that one bit of data in the display RAM corresponds to one dot in the LCD, there is a lot of freedom in displaying. The LH155P has 134 segment outputs and 66 common outputs in a single chip, making it possible to create an LCD system with the fewest number of the chips. The LH155P enables an LCD system for battery-operated, hand-carrying information equipment by securing lower power consumption and wider operating voltage range.

FEATURES

- LCD display by graphic display RAM :
RAM data "0" → not lighted, RAM data "1" → lighted
- Display RAM memory capacity
 - DDRAM : $134 \times 64 = 8576$ bits
 - PGRAM : $134 \times 2 = 268$ bits
- General 8-bit MPU interface : Possible to connect 80-family and 68-family MPUs to bus line
- Possible to make serial interface
- Ratio of display duty cycle :
 $1/10, 1/18, 1/26, 1/34, 1/42, 1/50, 1/58$ (for partial display) or $1/66$ (selectable by command)
- 134-bit automatic transfer from display RAM to display data latch

134-Segment and 66-Common Outputs LCD Driver IC with A Built-in RAM

- Abundant command functions
 - Display data read/write
 - Setting up LCD alternating signal cycle
 - Setting up common starting-line : per-8 lines
 - Display ON/OFF
 - Increment control of display RAM address
 - Partial display mode
- LCD drive circuit
 - Segment drive circuit : 134 outputs
 - Common drive circuit : 66 outputs
 - Static drive circuit : a pair of outputs
- LCD drive power circuit
 - Built-in booster circuit : Two, three or four times voltage boost is possible (selectable by command)
 - Built-in voltage converter : Generates LCD drive voltages (V_0, V_1, V_2, V_3 and V_4) based on the boosted voltage
 - Built-in power bias ratio : $1/5, 1/6, 1/7, 1/8$ or $1/9$ bias (selectable by command)
 - Supply voltages
 - Logic system : $+1.8$ to $+3.3$ V
 - LCD drive system : $+4.5$ to $+13.2$ V
- Operating temperature : -30 to $+85$ °C
- Package : 249-pin TCP (Tape Carrier Package)

BLOCK DIAGRAM

