

# SHARP LR38820

## NEW PRODUCT INFORMATION

QVGA TFT-LCD controller with graphic display functions

### Outline

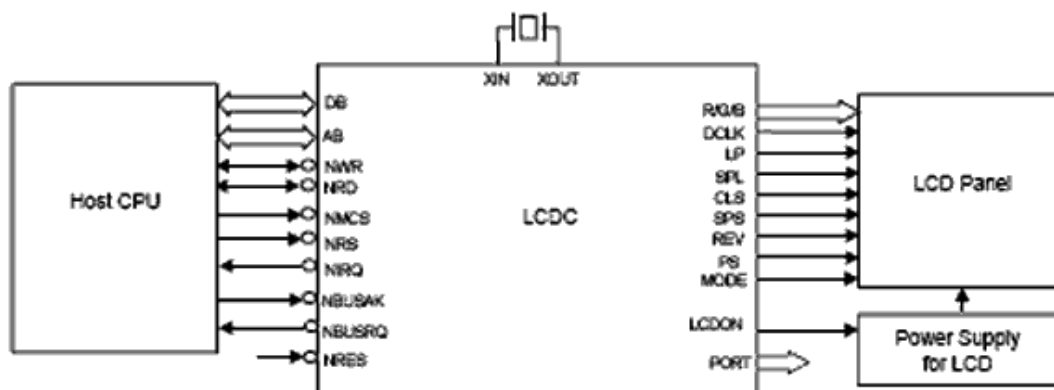
LR38820 is a color TFT-LCD controller with a built-in display memory of 150 KB. LR38820 has a built-in PxBLT function to copy image data independently, so it can be used to create systems suitable for applications utilizing images.

LR38820 is most suitable for mobile communication devices and PDA with QVGA-size LCD panels.

### Main specifications

- Compatible LCD panels
  - Compatible with 76 800-pixel (240 pixels x 320 lines) TFT-LCD panels (MAX.) with digital RGB interface.
  - Recommended LCD modules: LQ035Q2DB51 (portrait type)  
LQ039Q2DS03 (horizontal type)
- Display colors
  - Capable of displaying 65 536 colors out of a possible 262 144 colors.
  - 5-bit color palette (32-entry) is embedded for R, B of R, G, B.
- Display memory
  - Built-in 76 800 x 16-bit SRAM
  - Display memory can be mapped into any address in the 24-bit address space.
- CPU interface
  - 16-bit asynchronous bus interface
- Clock
  - Built-in oscillation circuit
  - Built-in divider circuit for data transfer clock generation
- Built-in DMA controller
  - Due to the built-in DMA controller, memory access between the LCDC and external memory can be performed without putting a load on the host CPU.
- PxBLT function
  - The PxBLT function copies the data in the display memory. Because the LCDC independently reads out and processes the display memory data, the load on the host CPU can be reduced. PxBLT also has optional copy functions such as image inversion, mirror image, and 180° rotation.
- General Parallel Output
  - Equipped with 8 general parallel output terminals
- Package
  - 120LQFP (P-LQFP120-1414)

### System configuration



In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that may occur in using any SHARP devices shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device. Specifications are subject to change without notice for improvement. As of April, 2001.

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