INTRODUCTION

The KS0711 is an LCD driver LSI for liquid crystal dot-matrix graphic display system. It incorporates 198 driver circuit for 132 segments, 64 commons and a common to drive icons, 65x132x2-bit bit-map RAM, and 4-level gray scale controller for enhanced graphics. It is capable of interfacing the microprocessor, accepting serial or 8-bit paraller display data directly from microprocessor, and storing data in an on-chip display data RAM. In addition, the KS0711 can read and write Display Data RAM with minimum current consumption as it does not requier any external operation clocks, it also has an LCD driving voltage generation circuit such as the voltage converter, voltage regulator and voltage follower to reduce power consumption

FEATURES

Driver Outputs

- Common Outputs : 65 common
- Segment Outputs : 132 segment

Applicable Panel Size

Display Size	Duty	Contents of Outputs
65 x 132	1/65	65 common, 132 segment
49 x 132	1/49	49 common, 132 segment
33 x 132	1/33	33 common, 132 segment

Internal Memory

- Display Data RAM (DDRAM) : 17,160 bits (65 common X 132 segment X 2)

MPU Interface

- 8 Bit Parallel Interface Mode : 68-series, 80-series selectable
- Serial Interface Mode : 1 pin clock synchronous serial interface

Function Set

- Various Instruction Set : LCD Bias Select, Regulator Referance Volatage Select, Regulator Resistor Select, Set Gray Registor, Power control .. etc
- COM/SEG Bidirectional
- H/W Reset

Built-in Analog Circuit

- Programable Oscillator Circuit
- Electrical Volume for Contrast Control (64 stages)
- Voltage Converter (2~5 times) / Voltage Regulator / Voltage Follower & Bias Circuit

Low Power Operation

- Standby Mode Operation (10uA)
- Normal Mode Operation (150uA)

Operating Voltage Range

- Supply Voltage (VDD) : 2.4 ~ 5.5V
- LCD Driving Voltage (VLCD = V0 - VSS) : 4.0 ~ 15.0V

Package Type

- Bumped chip / TCP