INTRODUCTION

The KS0713 is a LCD driver LSI for dot-matrix graphic display systems. It accepts 8-bit serial or parallel display data directly from a MPU and stores it in a on-chip RAM of 65*132 bits. It provides a highly-flexible display section due to the bit-mapped method which one bit of data in a display data RAM turns one dot of an LCD panel on or off. The KS0713 has 197 driver circuits with 132 segments, 64 commons and a common to drive icon. In addition, the KS0713 can read from and write to the Display Data RAM with the minimum current consumption as it does not require any external operation clock. Also it has a LCD driving voltage generation circuit such as voltage converter, voltage regulator and voltage follower to save power consumption.

FEATURES

Driver Outputs

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

Selectable duty ratio

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

5

Internal Memory

- Display Data RAM (DDRAM) : 8,580 bits (65 common X 132 segment)

MPU Interface

- Parallel Interface Mode (8-bit) : 68-series, 80-series selectable
- Serial Interface Mode available

Function Set

- Various Instruction Set : Power control, ADC, SHL, Entire Display ON/OFF, Sleep mode, Standby mode .. etc
- H/W , S/W Reset capable

Built-in Analog Circuit

- Built-in Oscillator Circuit
- Electrical Volume for Contrast Control (64 steps)
- Voltage Converter (2~5 times)
- Voltage Regulator (Temperature Coefficiency, Selectable 0.0%, -0.2%)
- Voltage Follower & Bias Circuit

Low Power Operation

- Standby Mode Operation (max: 10μA)
- Normal Mode Operation (max: 70μA)

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 available