



IST3753

168 x132 dot Graphics Four grayscale STN-LCD Driver/Controller

INTRODUCTION

The IST3753 is a single chip, 4-grayscale STN-LCD driver with controller for dot-matrix STN-LCD panel.

The IST3753 has 168 Segment outputs and 132 Common outputs, It can drives up to 168x132-dots STN-LCD panel.

The IST3753 provides 80/68-series 8/16-bit high-speed bus interface and 4-line Serial interface & IIC interface, embedded bit-mapped display RAM, oscillator circuit and power circuit, so that it can minimize system's hardware effort with fewer components.

The IST3753 provides abundant commands for LCD display access, except the basic display functions, it also provides a flexible display -operation functions convenient for image manipulation and easy firmware loading.

The IST3753 is especially designed for low power consumption application. It also provides Standby and Sleep mode allows for precise power saving control.

FEATURES

- **LCD Drive Output**
 - Segment outputs : 168 outputs
 - Common outputs : 132 outputs
- **Display Function**
 - Display RAM size : 168*132*2 Bits
 - Gray scale level : 4 level
 - Duty ratios : 1/8 ~ 1/132
- **Power Circuit**
 - Logic power (Vdd) :
 - (without T.C) : 1.7 ~ 3.6V
 - (With T.C) : 2.4 ~ 3.6V
 - LCD drive voltage : 17V (max)
 - Boost circuit : x3, x4, x5, x6, x7
 - Temp. coefficient : -0.082/-0.132/-0.184/-0.242 %/°C
 - Contrast adjust : 128 steps
 - Regulator gain : x3 ~ x10.5
 - Bias ratio : 1/4 ~ 1/11
 - Voltage follower : Generates V1 ~V5, based on the amplified internal reference voltage
- **Microprocessor Interface**
 - Parallel 68/80-series bi-directional 8/16-bit interface
 - IIC bus interface (transfer rate: 2MHz max)
 - 4-line serial interface
 - Min. Write cycle : 250 ns
 - Min Read cycle : 250 ns
- **Chip Outline**
 - Package : COG
 - Pad pitch (min) : 38um
 - Pad spacing (min) : 15um
- **Oscillator Circuit**
 - On-chip RC oscillation circuit
 - Internal/External oscillator-R selectable
- **LCD Drive Circuit**
 - Left-Right-interlaced COM disposition
 - Support split display (two screens display).
 - Support one or two screens' vertical scroll display
- **Multi-Time Programming Non-Volatile Memory**
 - 2 times Contrast adjustment
 - 1 times Follower balance adjustment
 - 1 times Oscillator freq. adjustment
- **Command Set**
 - Display data write/read
 - Display data bit-oriented mask-write
 - Addressing window auto-increment
 - Set display starting line
 - Set polarity alternated cycles
 - COM shift direction
 - SEG shift direction
 - Frame rate adjustment
 - Reverse display
 - Power saving mode
 - Internal register status read