



# IST3259

## 160 x160 dot Graphics 16 grayscale STN-LCD Driver/Controller

### INTRODUCTION

The IST3259 is a single chip, 16-grayscale STN-LCD driver with controller for dot-matrix STN-LCD panel.

The IST3259 has 160 Segment outputs and 160 Common outputs, It can drives up to 160x160-dots STN-LCD panel.

The IST3259 provides 80/68-series 8bit high-speed bus interface and 4-line Serial interface embedded bit-mapped display RAM, oscillator circuit and power circuit, so that it can minimize system's hardware effort with fewer components.

The IST3259 provides abundant commands for LCD display access, except the basic display functions.

The IST3259 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 : 160 outputs
  - Common outputs : 160 outputs
- **Display Function**
  - Display RAM size : 160\*160\*4 Bits
  - Gray scale level : 16 level
  - Duty ratios : 1/64, 1/128, 1/160
- **Power Circuit**
  - Supply voltage (VCC) : 2.4V ~ 3.6V
  - LCD drive voltage : 32V (max V0 - XV0)
  - Boost circuit (#1) : X2~X3 for VOUT1
  - (#2) : X2~X4 for VOUT2
  - (#3) : -1X for XV0
  - Temp. coefficient : Segmented TC, 0mV/°C~-50mV/°C
  - Contrast adjust : 256 steps (8 Bit)
  - Bias ratio : 1/6 ~ 1/13
- **Microprocessor Interface**
  - Parallel 68/80-series bi-directional 8 bit interface
  - 4-line serial interface
  - Min. Write cycle : 350 ns
  - Min. Read cycle : 500 ns
- **Chip Outline**
  - Package : COG
  - Pad pitch (min) : 33um.
  - Pad spacing (min) : 13um.
- **Oscillator Circuit**
  - On-chip RC oscillation circuit
- **LCD Drive Circuit**
  - Left-Right-interlaced COM disposition
  - Support vertical scroll display
- **Command Set**
  - Display data write/read
  - Addressing window auto-increment
  - Set display starting line
  - Set polarity alternated cycles
  - COM shift direction
  - SEG shift direction
  - Segmented Frame rate control
  - Reverse display
  - Power saving mode
  - Internal register status read
- **Other**
  - OTP available
  - Temperature Sensor
  - Deep sleep mode