4K Color STN Driver & Controller IC | AR3301

GENERAL DESCRIPTION

Ar3301 is a single chip driver and controller device for dot matrix LCD (liquid crystal display) display systems. This chip can be directly connected to a microprocessor, accepts serial or 8/16bit parallel display data from the microprocessor, stores the display data in a built-in display RAM and generates LCD driving signals.

AR3301 has 128 X RGB segment outputs and 162 common outputs, so that it can drive 128X162 dots 256/4096-color STN LCD panel.

AR3301 is best suited to drive LCD systems for batteryoperated, handheld information equipment by ensuring low power consumption and a wide range of operating voltages.

FEATURES

*LCD drive circuit
Segment outputs: 384 outputs
Special segment outputs: 6 outputs
Common outputs: 162 outputs

*Display RAM capacity
128 x 162 x12 = 248,832 bits

*Display functions gradation: 16 gradations can be selected from 32 gradations
By PWM control.
Monochrome: 162 x128 (8 gradation available)
Partial display: a specific part of the graphic display area can be displayed.

*Applicable duty ratios: 162, 160, 144, 132, 128, 112, 96, 80, 72, 64, 56, 48, 40, 32, 24, 16

*MPU interface: 8bit parallel bi-directional interface with 80-family and 68family
MPU: serial interfaces (only write operation) available.

*LCD drive power circuit
builtin booster circuit: two, three, four, five, six or seven times voltage Boost is available.

*Builtin electronic volume: controllable in 128 steps

*Builtin voltage converter: generates LCD drive voltages (V0, V1, V2, V3, V4) based on the boosted voltages

*Builtin constant voltage generator circuit

*Selectable bias ratio: select from 1/12, 1/11, 1/10, 1/9, 1/8, 1/7, 1/6, and 1/5 using commands.

*Various function set:
display data read/write
setting LCD alternated signal cycle
setting display starting-line
display ON/OFF
display controls of normal and reverse modes
setting common startingline
increment control of display RAM addresses
readmodifywrite control
internal register read
power saving modes

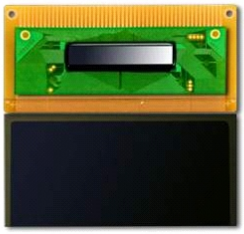
*Power source:
supply voltage for logic system: +1.7 to +3.3 V
LCD drives voltage: +5.0 to +18 V

*Operating temperature: 30 to +85□C

* Package type: COF / COG

CHIP

COF



COG