

## AND08C343S

### 8.4" SVGA Color p-Si TFT LCD Module

The AND08C343S is 800 x 600 Color TFT display that utilizes new poly-silicon (p-Si) technology to provide a brighter, thinner and lighter display with high-resolution. The p-Si TFT technology allows the row and column LCD drivers to be fabricated directly on the LCD glass. This eliminates the need for discrete TAB drivers. This reduces the thickness, weight and overall size of the display. The single tube CCFL backlight offers a very thin, low power, and bright display that can be dimmed to save power. This makes the display ideal for portable, battery-operated applications.

#### Features

- p-Si construction with drivers on glass
- High luminance
- Single CCFL backlight
- Clear 256K colors (K=1024)
- Thin and lightweight design
- SVGA (800 x 600 pixels color display)
- Fast response time
- Applications: Display Terminals; Scientific, Medical, Test & Measurement Instruments; Office Automation Equipment

#### Mechanical Characteristics

Item	Specification	Unit
Outline Dimensions	201.4 (H) x 140.3 (V) x 5.8 max (D)	mm
Number of Pixels	800 (H) x 600 (V)	pixels
Active Area	170.4 (H) x 127.8 (V)	mm
Pixel Pitch	0.213 (H) x 0.213 (V)	mm
Weight (approx.)	190	gram
Backlight	CCFL, Side-light type (1 lamp)	—

#### Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit
Supply Voltage	V <sub>DD</sub>	-0.3	4.5	4.0 V
	V <sub>FL</sub>	0	2000	Vrms
FL Driving Frequency	f <sub>FL</sub>	0	100	kHz
Input Signal Voltage	V <sub>IN</sub>	-0.3	V <sub>DD</sub> + 0.3	V
Operating Temperature	T <sub>op</sub>	0	50	°C
Storage Temperature	T <sub>stg</sub>	-20	60	°C
Humidity (Max. Wet bulb temp = 29°C)	—	10	90	λ RH

#### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage (I <sub>FL</sub> =2.7mA)	V <sub>DD</sub>	3.0	3.3	3.6	V
	V <sub>FL</sub>	370	420	450	Vrms
FL Start Voltage (Ta = 0°C)	—	1000	—	1600	Vrms
High Level Input Voltage	V <sub>IH</sub>	0.8	—	V <sub>DD</sub>	V
Low Level Input Voltage	V <sub>IL</sub>	0	—	0.2	V
Current Consumption	I <sub>DD</sub>	—	240	—	mA
	I <sub>FL</sub>	2.2	2.7	5.0	mArms
Power Consumption (*1)	P	—	1.9	—	W

\*1: Before the efficiency loss of CCFL inverter, I<sub>FL</sub> = 2.7mA

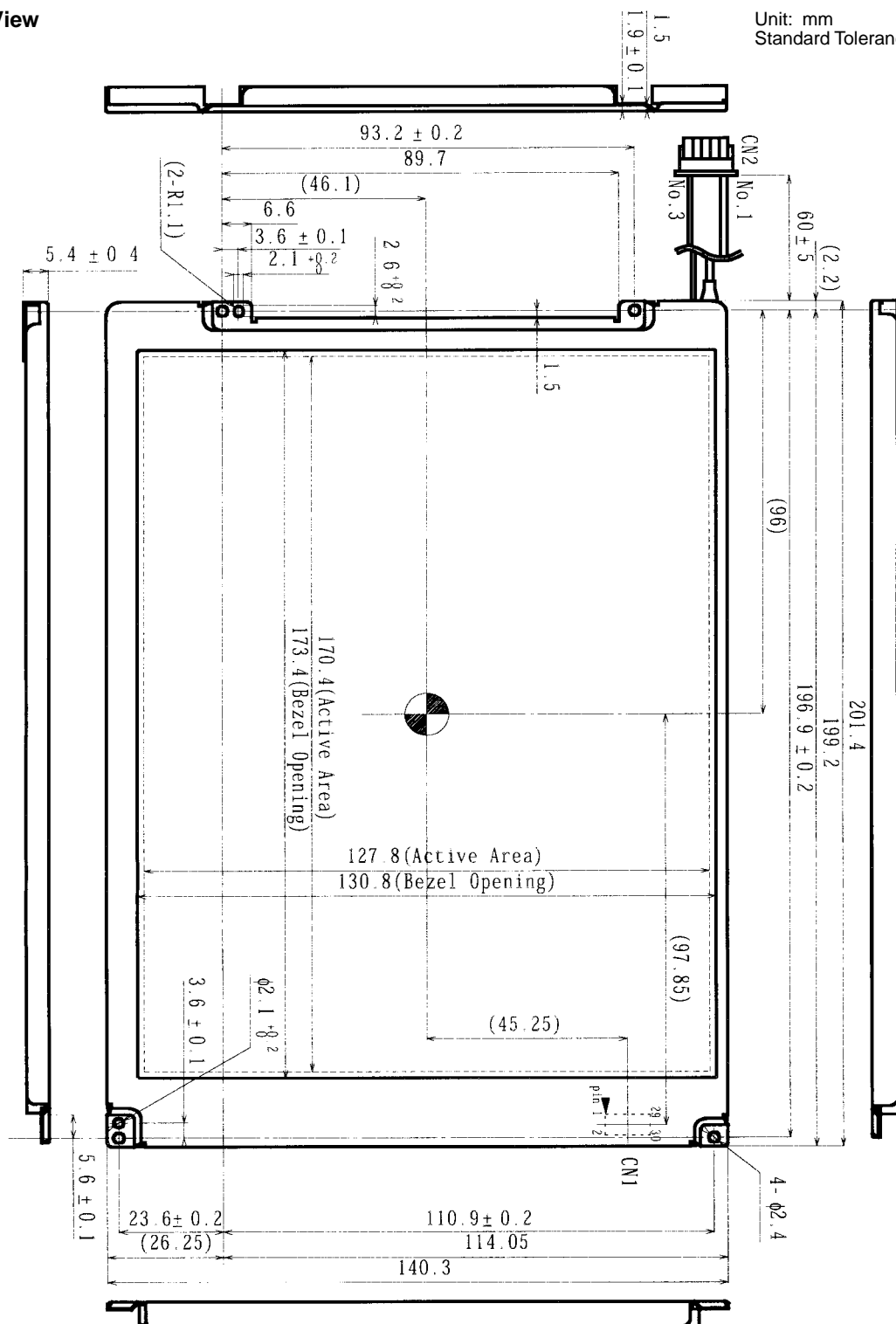
#### Optical Characteristics (Ta = 25°C)

Item	Symbol	Min.	Typ.	Max.	Unit
Contrast	CR	100	250	—	—
Response	t <sub>on</sub>	—	—	50	ms
	t <sub>off</sub>	—	—	50	ms
Luminance (I <sub>FL</sub> = 2.7mA)	L	50	70	—	cd/m <sup>2</sup>
Luminance (I <sub>FL</sub> = 5mA)	L	90	130	—	cd/m <sup>2</sup>

## Dimensional Outline

### Front View

Unit: mm  
Standard Tolerance: 0.5mm

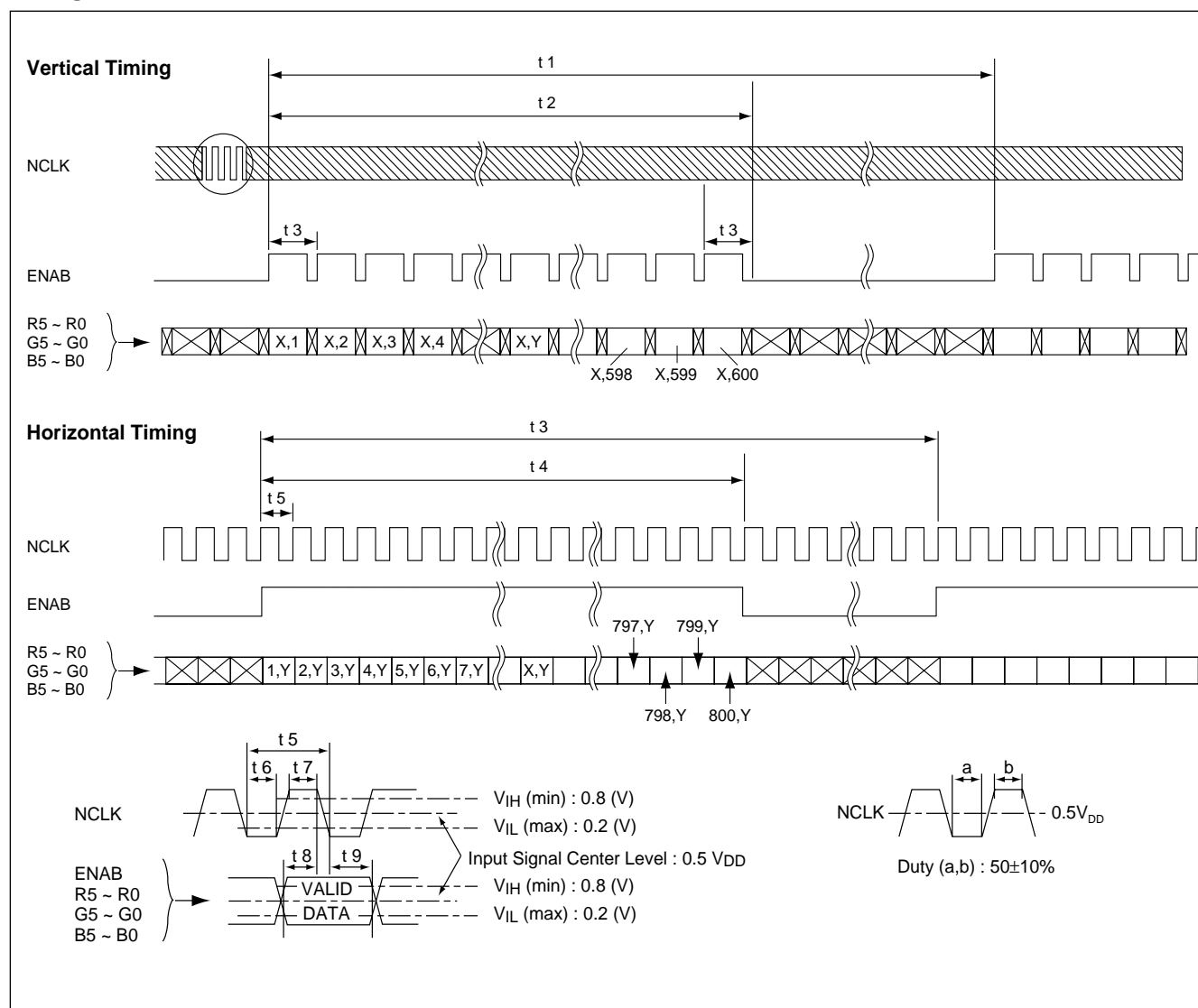


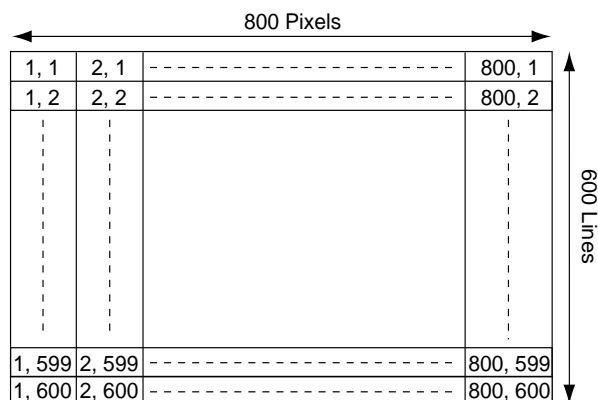


## Timing Specifications

Item	Symbol	Min	Typ	Max	Unit
Frame Period	t1	604 x t3 —	625 x t3 17.78	628 x t3 17.86	— ms
Vertical Display Term	t2	600 x t3	600 x t3	600 x t3	t2 = N • t3
One Line Scanning Time	t3	1000 x t5 (26.3)	1056 x t5 26.4	1056 x t5	— μs
Horizontal Display Period	t4	800 x t5	800 x t5	800 x t5	—
Clock Period	t5	24.7	25.0	27.8	ns
Clock "L" Time	t6	9.0	—	—	ns
Clock "H" Time	t7	9.0	—	—	ns
Set Up Time	t8	4.0	—	—	ns
Hold Time	t9	6.0	—	—	ns

## Timing Chart

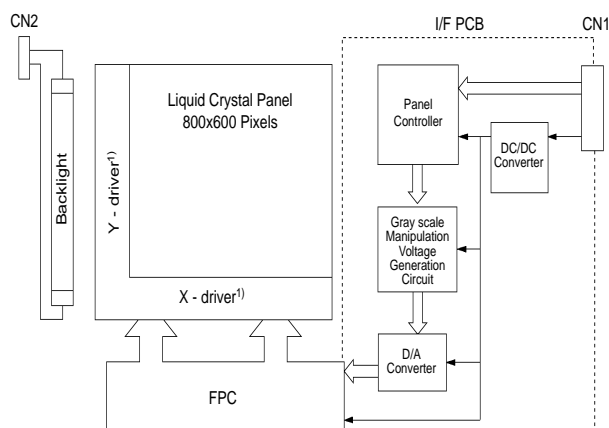




Recommended Inverter: INV8m122325 (12VDC Input)

## Block Diagram

### 1) Drivers are fabricated on the LCD glass



### 2) Connectors

**CN1-SD-53885-0301/Japan Molex Co.**  
Mating Connector - SD-54102-0301/Molex

**CN2-BHR-03VS-1/Japan Solderless Terminal Co., Ltd.**  
Mating Connector - SM02(8.0)B-BHS/JST

## Connector Pin Assignment for Interface

### CN1 Input Signal (1) (SD-53885-0301/Japan Molex Co.)

Terminal No.	Symbol	Function
1	GND	Ground
2	GND	Ground
3	NCLK	Sampling Clock
4	GND	Ground
5	R0 <sup>(2)</sup>	Red Display Data (LSB)
6	R1 <sup>(2)</sup>	Red Display Data
7	R2 <sup>(2)</sup>	Red Display Data
8	R3 <sup>(2)</sup>	Red Display Data
9	R4 <sup>(2)</sup>	Red Display Data
10	R5 <sup>(2)</sup>	Red Display Data (MSB)
11	GND	Ground
12	G0 <sup>(2)</sup>	Green Display Data (LSB)
13	G1 <sup>(2)</sup>	Green Display Data
14	G2 <sup>(2)</sup>	Green Display Data
15	G3 <sup>(2)</sup>	Green Display Data
16	G4 <sup>(2)</sup>	Green Display Data
17	G5 <sup>(2)</sup>	Green Display Data (MSB)
18	GND	Ground
19	B0 <sup>(2)</sup>	Blue Display Data (LSB)
20	B1 <sup>(2)</sup>	Blue Display Data
21	B2 <sup>(2)</sup>	Blue Display Data
22	B3 <sup>(2)</sup>	Blue Display Data
23	B4 <sup>(2)</sup>	Blue Display Data
24	B5 <sup>(2)</sup>	Blue Display Data (MSB)
25	GND	Ground
26	ENAB	Compound Synchronization Signal
27	VDD	+3.3V Power Supply
28	VDD	+3.3V Power Supply
29	GND	Ground
30	GND	Ground

### CN2 CCFL Power Source

(BHR-03VS-1/Japan Solderless Terminal Mfg Co., Ltd.)

Terminal No.	Symbol	Function
1	VL	CCFL Power Supply (High Voltage)
2	NC <sup>(1)</sup>	
3	GL	CCFL Power Supply (GND Side)

Note (1) NC terminal is open.



Note (2): 256K colors are displayed by the combinations of 18 data bits.

	Display	R5	R4	R3	R2	R1	R0	G5	G4	G3	G2	G1	G0	B5	B4	B3	B2	B1	B0	Gray Scale Level
Basic Color	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	–
	Blue	L	L	L	L	L	L	L	L	L	L	L	L	H	H	H	H	H	H	–
	Green	L	L	L	L	L	L	H	H	H	H	H	H	L	L	L	L	L	L	–
	Lt. Blue	L	L	L	L	L	L	H	H	H	H	H	H	H	H	H	H	H	H	–
	Red	H	H	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	–
	Purple	H	H	H	H	H	H	L	L	L	L	L	L	H	H	H	H	H	H	–
	Yellow	H	H	H	H	H	H	H	H	H	H	H	H	L	L	L	L	L	L	–
	White	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	–
Gray Scale of Red	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L0
	Dark	L	L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L1
		L	L	L	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L2
					:					:						:				L3~L60
					:					:						:				
		H	H	H	H	L	H	L	L	L	L	L	L	L	L	L	L	L	L	L61
	Light	H	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L	L62
	Red	H	H	H	H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	Green L63
Gray Scale of Green	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L0
	Dark	L	L	L	L	L	L	L	L	L	L	H	L	L	L	L	L	L	L	L1
		L	L	L	L	L	L	L	L	L	H	L	L	L	L	L	L	L	L	L2
					:					:						:				L3~L60
					:					:						:				
		L	L	L	L	L	L	H	H	H	H	L	H	L	L	L	L	L	L	L61
	Light	L	L	L	L	L	L	H	H	H	H	H	L	L	L	L	L	L	L	L62
	Green	L	L	L	L	L	L	H	H	H	H	H	H	L	L	L	L	L	L	Green L63
Gray Scale of Blue	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L0
	Dark	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H	L1
		L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	H	L	L	L2
					:					:						:				L3~L60
					:					:						:				
		L	L	L	L	L	L	L	L	L	L	L	L	H	H	H	H	L	H	L61
	Light	L	L	L	L	L	L	L	L	L	L	L	L	H	H	H	H	H	L	L62
	Blue	L	L	L	L	L	L	L	L	L	L	L	L	H	H	H	H	H	H	Blue L63
Gray Scale of White & Black	Black	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L0
	Dark	L	L	L	L	L	H	L	L	L	L	L	H	L	L	L	L	L	H	L1
		L	L	L	L	H	L	L	L	L	H	L	L	L	L	L	H	L	L	L2
					:					:						:				L3~L60
					:					:						:				
		H	H	H	H	L	H	H	H	H	L	H	L	H	H	H	H	L	H	L61
	Light	H	H	H	H	H	L	H	H	H	H	L	L	H	H	H	H	H	L	L62
	White	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	White L63