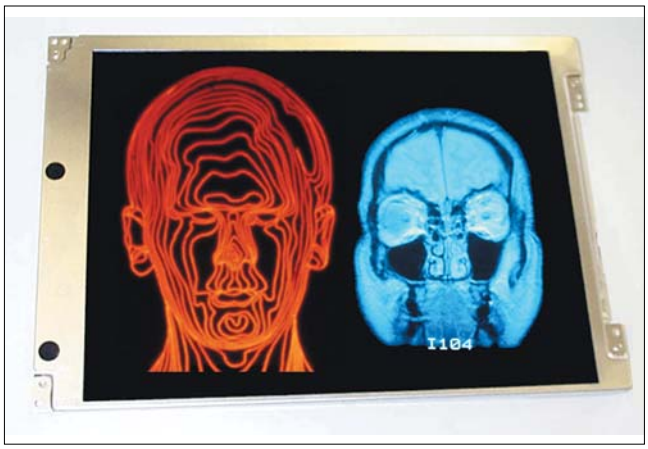
AND Displays



ANDpSi08C355

8.4” SVGA Color p-Si TFT LCD Module

The ANDpSi08C355 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)
- Slim (5.5mm MAX) and lightweight (190g TYP) design
- SVGA (800 x 600 pixels color display)
- 8.4” SVGA display for notebook PC
- Applications: Display Terminals; Scientific, Medical, Test & Measurement Instruments; Office Automation Equipment

Mechanical Characteristics

Item	Specification	Unit
Outline Dimensions	200.3 (W) x 140.3 (H) x 5.5 max (D)	mm
Number of Pixels	800 (W) x 600 (H)	pixels
Active Area	170.4 (W) x 127.8 (H)	mm
Pixel Pitch	0.213 (W) x 0.213 (H)	mm
Weight (approx.)	190	gram
Backlight	CCFL, Side-light type (1 lamp)	–

Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit
Supply Voltage	V_{DD}	-0.3	4.5	V
	V_{FL}	0	2.0	kV(rms)
FL Driving Frequency	f_{FL}	–	100	kHz
Input Signal Voltage	V_{IN}	-0.3	V_{DD} + 0.3	V
Operating Temperature	T_{op}	0	50	°C
Storage Temperature	T_{stg}	-20	60	°C
Humidity (Max. Wet bulb temp =39°C)	–	10	90	% (RH)

Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage (I_{FL}=4.2mArms)	V_{DD}	3.0	3.3	3.6	V
	V_{FL}	405	455	505	Vrms
FL Start Voltage (Ta = 0°C)	–	1100	–	1600	Vrms
High Level Input Voltage	V_{IH}	0.8 V_{DD}	–	V_{DD}	V
Low Level Input Voltage	V_{IL}	0	–	0.2 V_{DD}	V
Current Consumption	I_{DD} (*1)	–	240	–	mA
	I_{FL} (*2)	2.2	4.2	5.0	mArms
Power Consumption (*2, *3) (@120cd/m^2)	–	–	2.7	–	W

*1: 8 color bars pattern
*2: Excepting the efficiency FL inverter
*3: Not use Hsync or Vsync. Only ENAB control

Optical Characteristics (Ta = 25˚C)

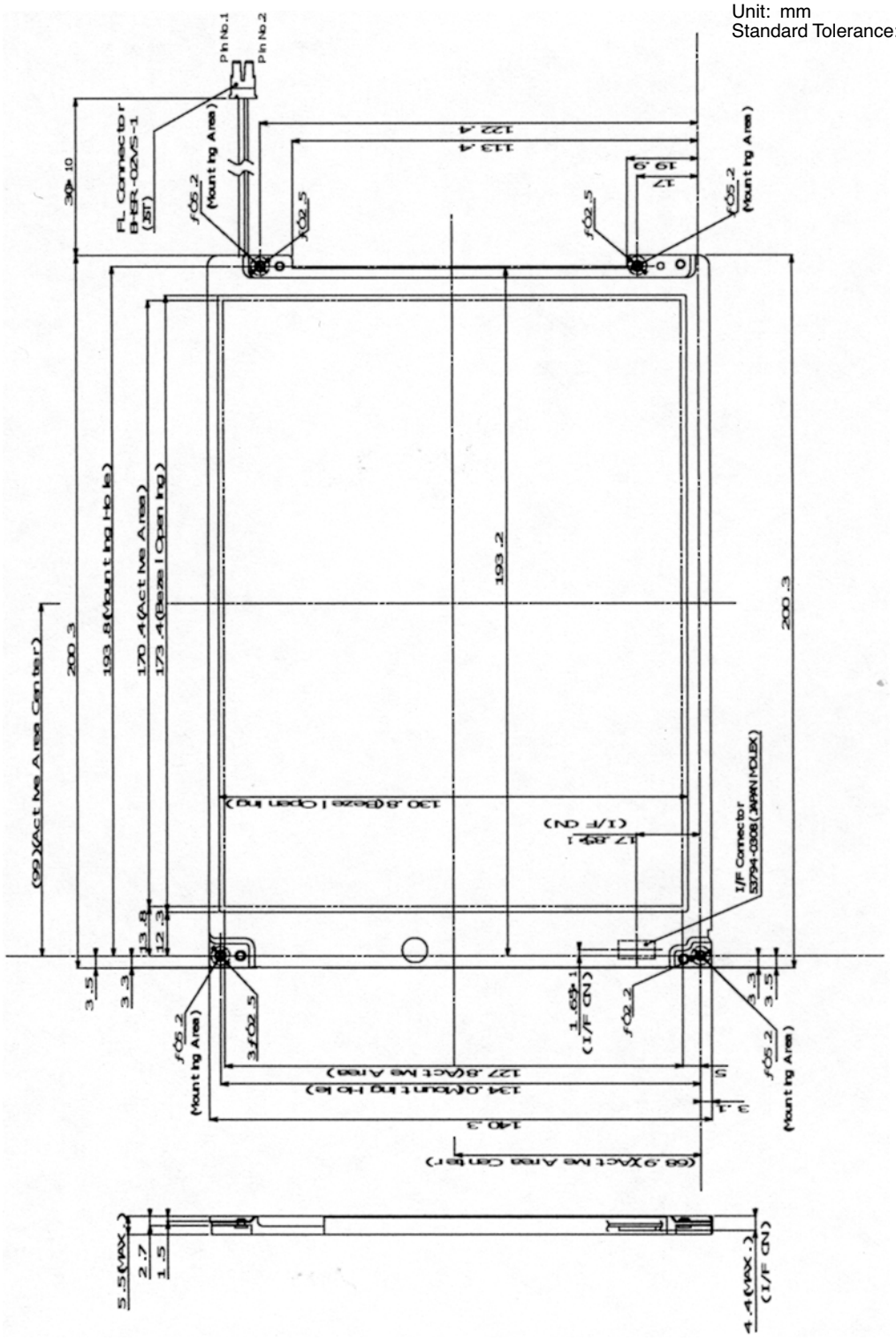
Item	Symbol	Min.	Typ.	Max.	Unit
Contrast	CR	100	250	–	–
Response	t_{on}	–	–	50	ms
	t_{off}	–	–	50	ms
Luminance (I_{FL} =4.2mArms)	L	90	145	–	cd/m^2

Product specifications contained herein may be changed without prior notice.
It is therefore advisable to contact Purdy Electronics before proceeding with the design of equipment incorporating this product.

Dimensional Outline

Front

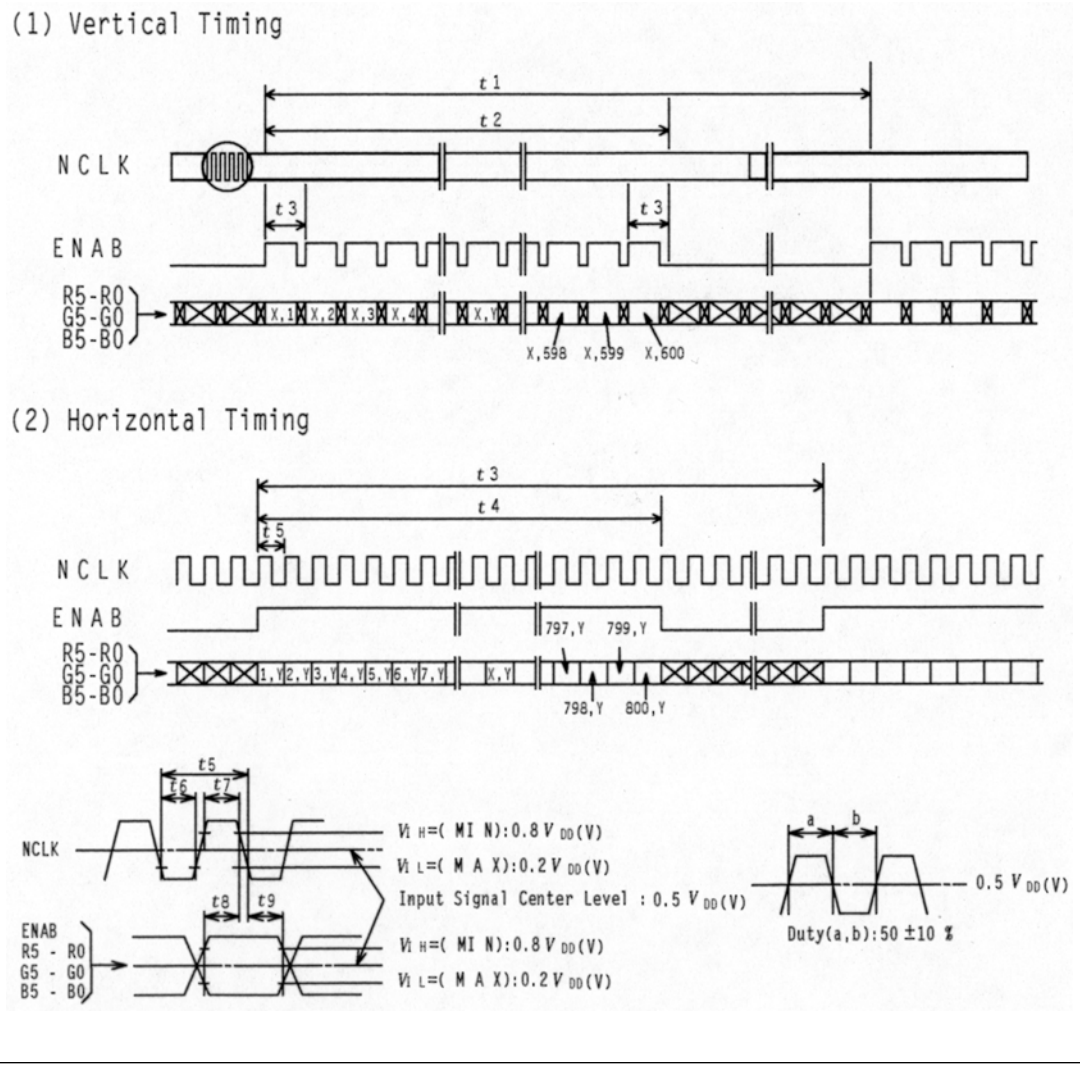
Unit: mm
Standard Tolerance: 0.5mm

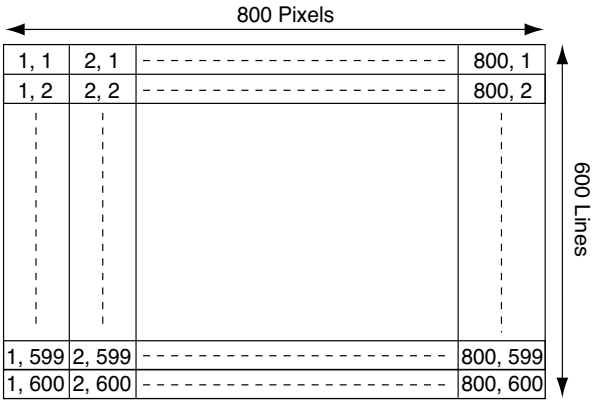


Timing Specifications

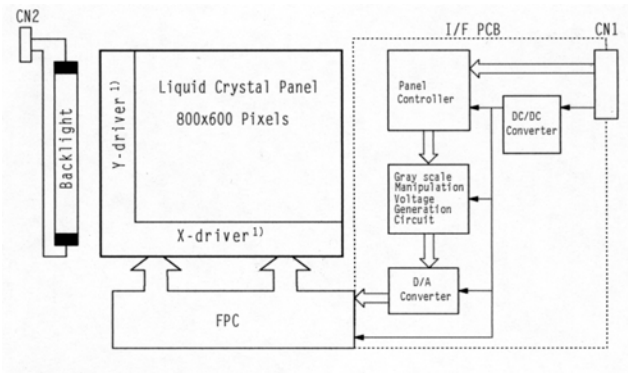
Item	Symbol	Min	Typ	Max	Unit
Frame Period*	t1	604 x t3 –	628 x t3 16.58	677 x t3 17.86	– ms
Vertical Display Term*	t2	600 x t3	600 x t3	600 x t3	t2 = N •t3
One Line Scanning Time*	t3	944 x t5 (26.3)	1056 x t5 26.4	1064 x t5	– µs
Horizontal Display Period*	t4	800 x t5	800 x t5	800 x t5	–
Clock Period	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
*Refer to “Timing Chart”					

Timing Chart





Recommended Inverter: INV8m122325 (12VDC Input)



Block Diagram

1) Drivers are fabricated on the LCD glass

2) Connectors
CN1- 53794-0308/Japan Molex Co.
Mating Connector - 54037-0307/Molex

CN2-BHR-02VS-1/Japan Solderless Terminal Co., Ltd.
Mating Connector - SM02B-BHSS-1/JST

Connector Pin Assignment for Interface

CN1 Input Signal (1) (see notes at bottom of page)

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

CN2 CCFL Power Source

Terminal No.	Symbol	Function
1	VFLH	CCFL Power Supply (High Voltage)
2	VFLL	CCFL Power Supply (Low Voltage)

Note 1: Please connect GND pin to ground. Do not use it as a no-connect nor connection w/high impedance.
Note 2: see next page.

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		–
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	Red 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	L	H	L	L	L	L	L	L	L1
		L	L	L	L	L	L	L	L	L	L	H	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	L	H	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	L	H	L	L	L	L	L	H	L	L2
					:						:						:			L3~L60
					:						:						:			
		H	H	H	H	L	H	H	H	H	H	L	H	H	H	H	H	L	H	L61
	Light	H	H	H	H	H	L	H	H	H	H	H	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