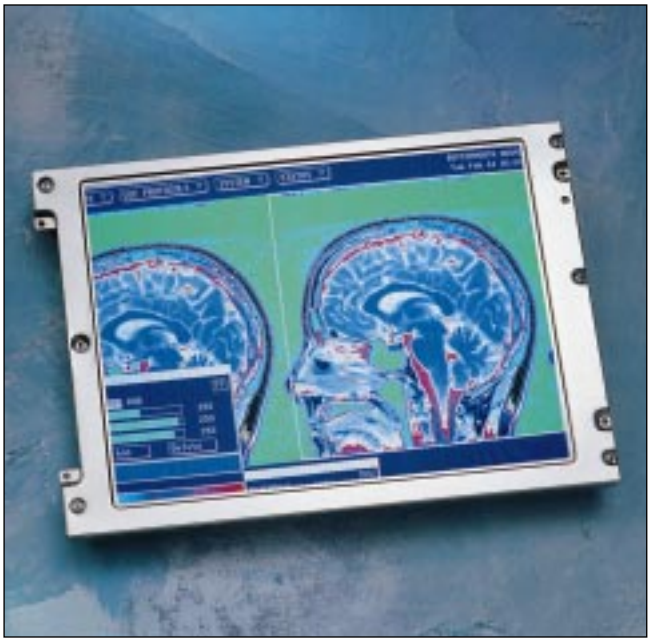


AND10C273-HB

10.4” SVGA Color TFT LCD Module

Features

- High luminance
- Twin CCFL backlight
- Low reflection
- Clear 256K colors (K=1024)
- Thin and lightweight design
- Fully compatible with AND10C209A-HB
- SVGA (800 x 600 pixels color display)
- Fast response time
- Applications: Display Terminals, Scientific Instruments, Medical Instruments, Test and Measurement Instruments, Process Control/Factory Automation Equipment, Office Automation Equipment

Mechanical Specifications

Item	Specification	Unit
Outline Dimensions	265.0 (H) x 188.8 (V) x 12 max (D)	mm
Number of Pixels	800 (H) x 600 (V)	pixels
Active Area	211.2 (H) x 158.4 (V)	mm
Pixel Pitch	0.264 (H) x 0.264 (V)	mm
Weight (approx.)	600	gram
Backlight	CCFL, Side-light type (twin lamps)	–

Absolute Maximum Ratings

Item	Symbol	Min	Max	Unit
Supply Voltage	V_{DD}	-0.3	7.0	V
	V_{FL}	0	2000	Vrms
FL Driving Frequency	f_{FL}	0	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 = 29°C)	–	10	90	%RH

Electrical Specifications (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit
Supply Voltage (I_{FL}=6mA)	V_{DD}	4.75	5.0	5.25	V
	V_{FL}	500	550	600	Vrms
FL Start Voltage (Ta = 0°C)	–	1500	–	–	Vrms
High Level Input Voltage	V_{IH}	3.5	_	V_{DD}	V
Low Level Input Voltage	V_{IL}	0	–	1.5	V
Current Consumption	I_{DD}	–	155	–	mA
	I_{FL}	3.0	6.0	7.0	mArms
Power Consumption (*1)	P	–	7.4	–	W

*1: Before the efficiency loss of CCFL inverter

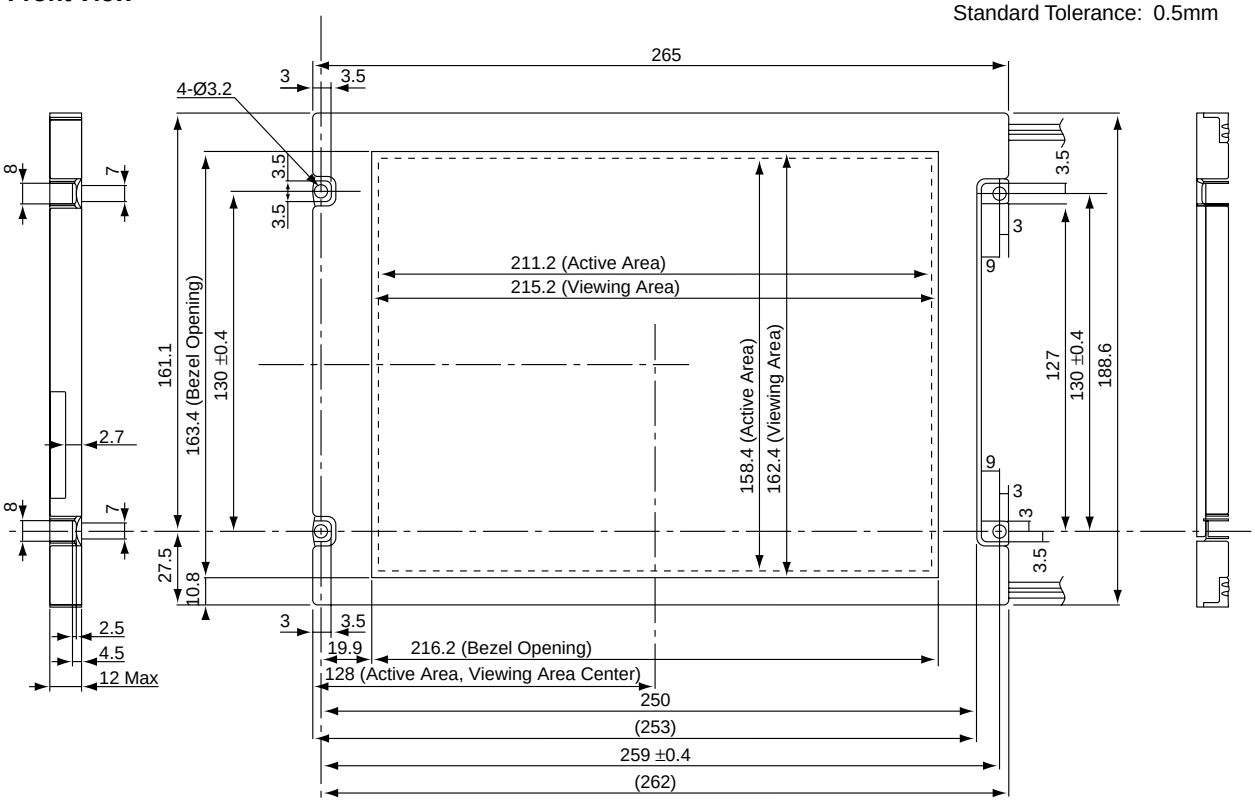
Optical Specifications (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit
Contrast	CR	100	–	–	–
Response	t_{on}	–	–	50	ms
	t_{off}	–	–	50	ms
Luminance	L	–	250	–	cd/m^2

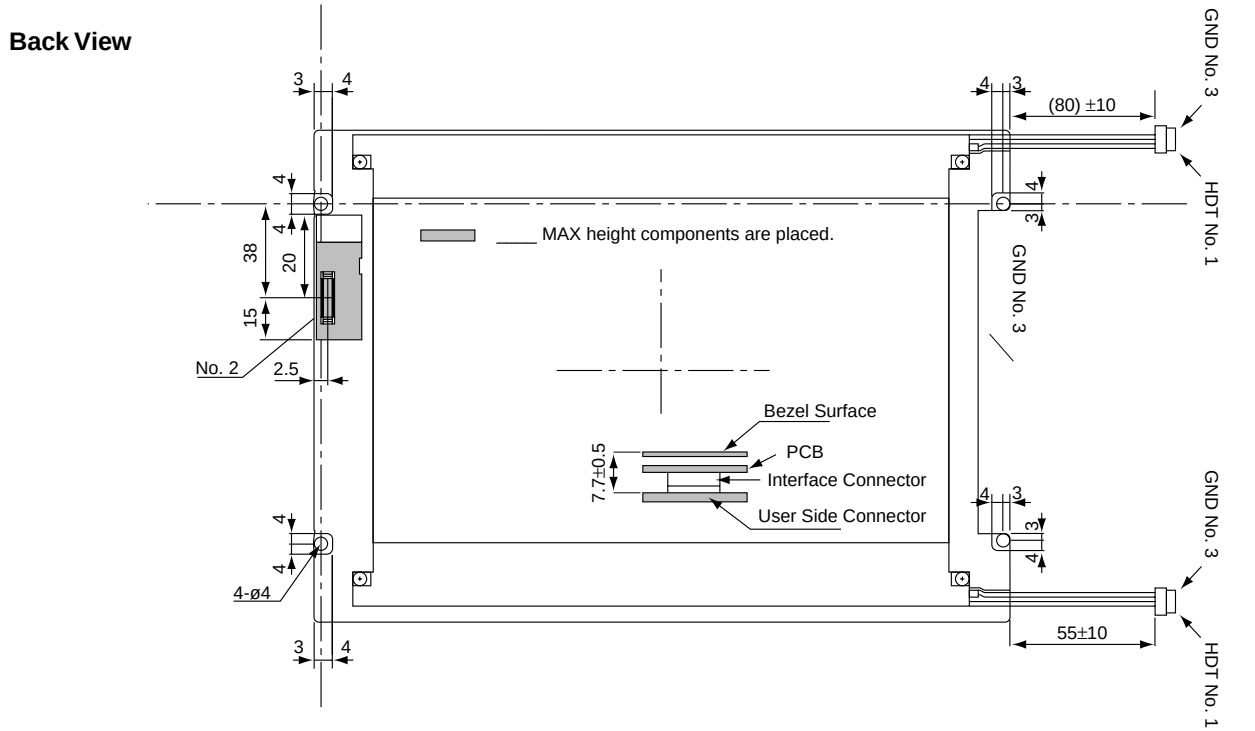
Dimensional Outline

Front View

Unit: mm
Standard Tolerance: 0.5mm



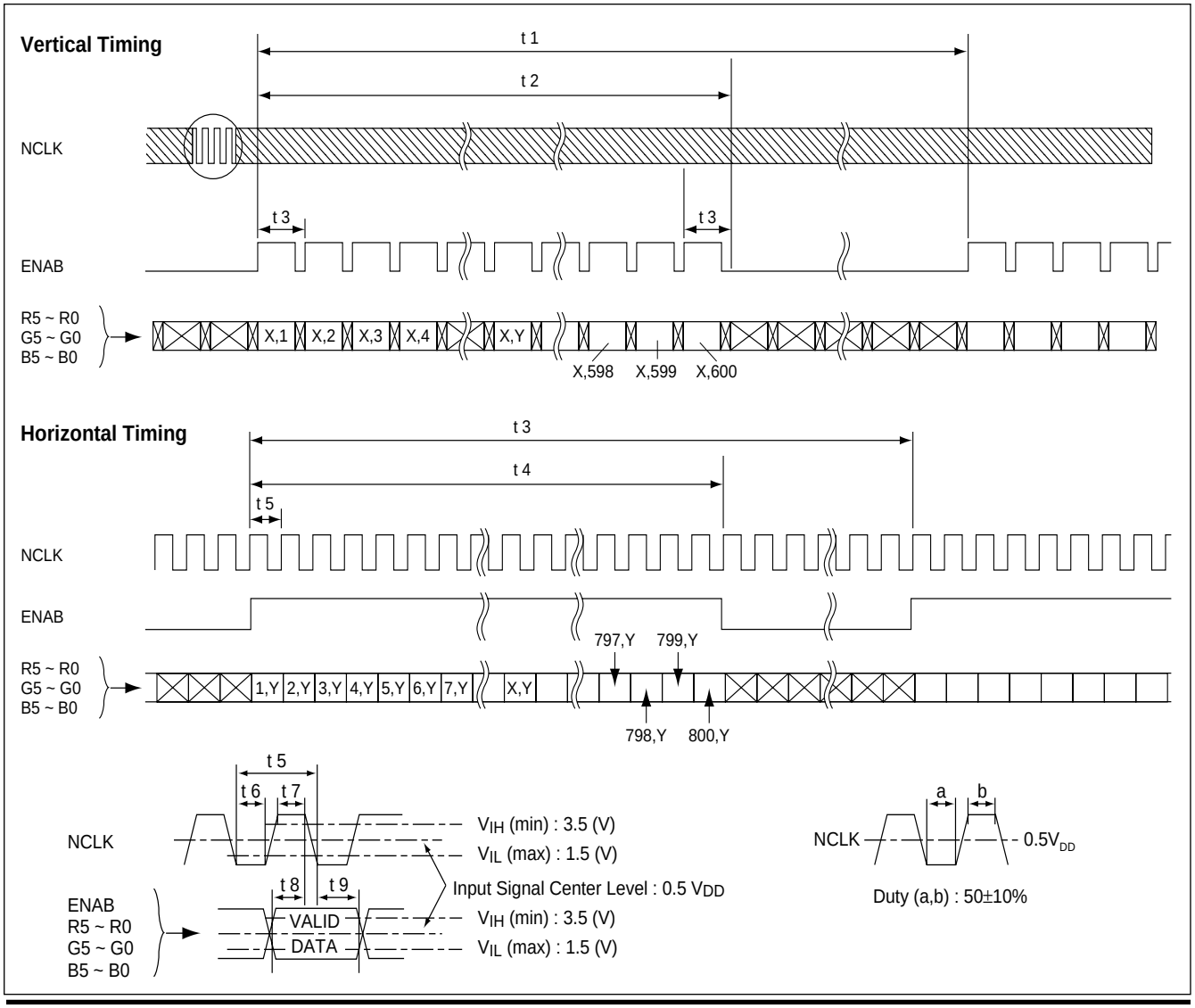
Back View

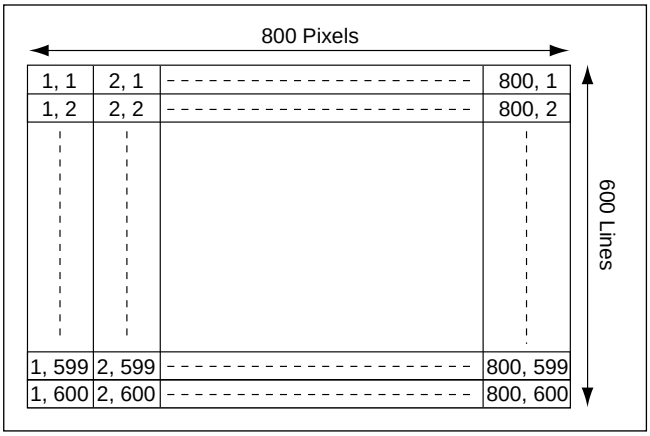


Timing Specifications

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	844 x t5 (26.4)	1024 x t5 28.44	1056 x t5	– µs
Horizontal Display Period	t4	800 x t5	800 x t5	800 x t5	–
Clock Period	t5	25.0	27.78	_	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	5.0	–	–	ns

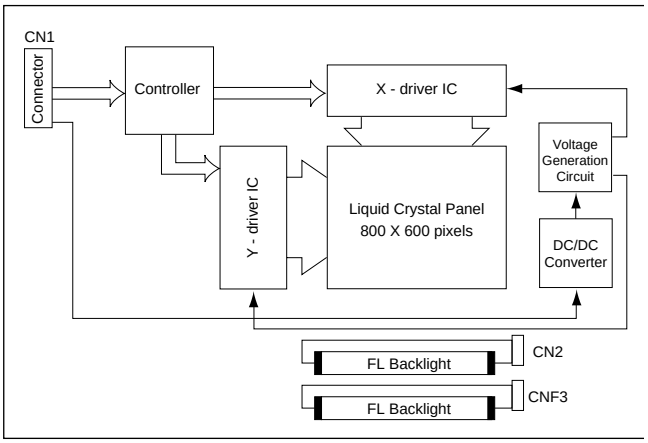
Timing Chart





Recommended Inverter: VNR10C042 INC

Block Diagram



Connector Pin Assignment for Interface

CN1 Input Signal (1)
(DF9-31P-1V/Hirose Electric Co., Ltd.)

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

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(1)	
3	GL	CCFL Power Supply (GND Side)

Note (1): NC terminal is open. (Don't use.)

Note (2): 256 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	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	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