

Phoenix Display International, Inc.

PRODUCT PREVIEW

160 x 240 Monochrome

TN/STN

Graphics

Liquid Crystal Display

SPECIFICATIONS

MODULE

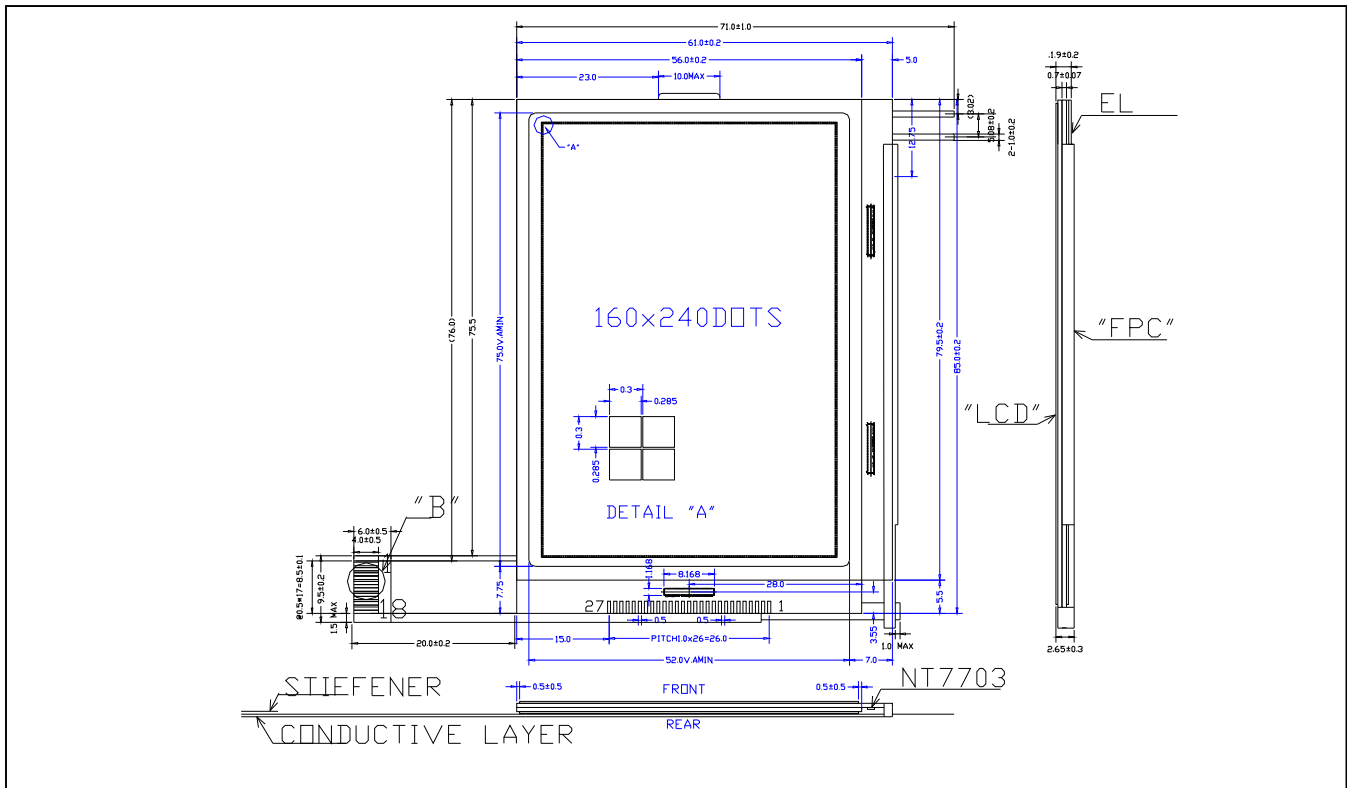
Part Number	G-16024001G-VA
Format	160 Columns by 240 Rows
Controller	HM11S210
Overall Dimensions	85.0mm x 61.0mm x 2.7mm
Active Area	47.9mm x 71.9mm
Pixel Pitch	300um x 300um
Pixel Size	285um x 285um
Backlight System	EL
Driver Attach	Chip on Glass (COG)
Display Type	STN, FSTN
Duty	1/240
Bias	1/16



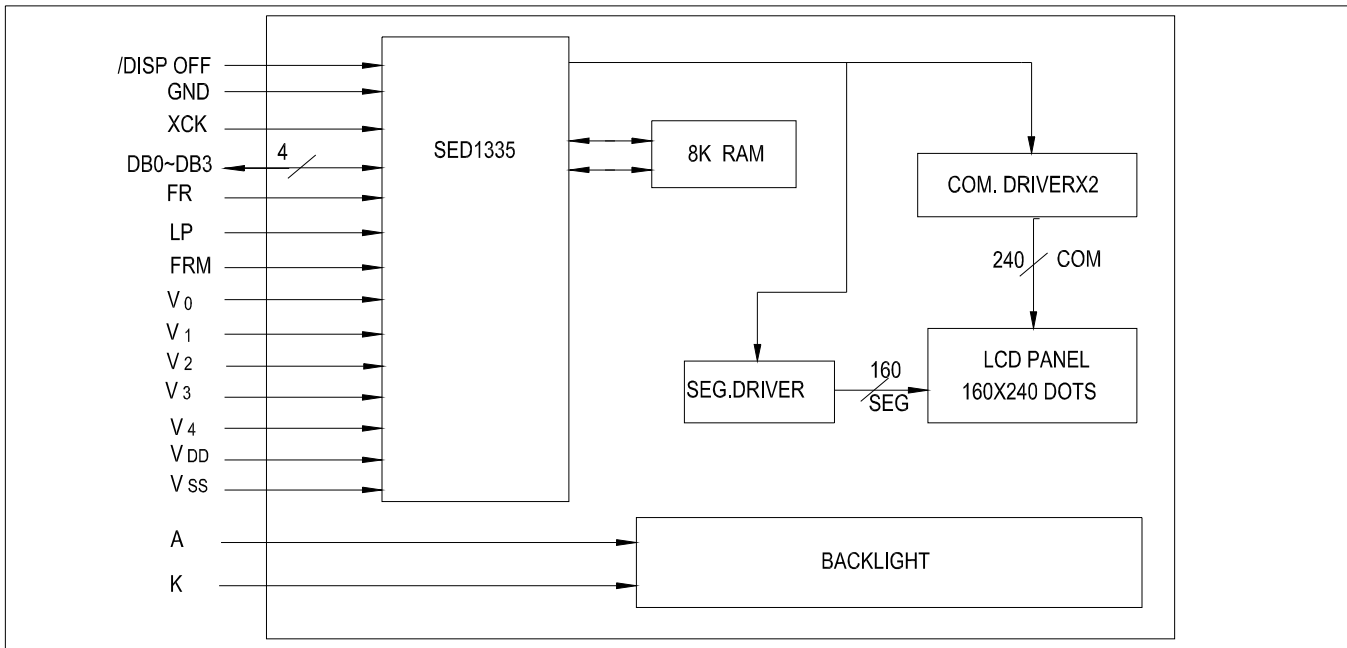
G-16024001G-VA

1/240 DUTY, 1/16 BIAS
160x240 DOTS

1.0 DIMENSIONAL DRAWING



2.0 BLOCK DIAGRAM



3.0 ELECTRICAL CHARACTERISTICS $T_a=25\text{ }^\circ\text{C}$ $V_{DD}=3.0\text{V}\pm 0.25\text{V}$

Item	Symbol	Test Condition	Standard Value			Unit	
			Min.	Typ.	Max.		
Power Supply Voltage	$V_{DD}-V_{SS}$	25°C	2.5	3.0	5.5	V	
LCD Operation Voltage	V_{OP}			24		V	
LCM Current Consumption	I_{DD}			TBD		mA	
Backlight Forward Voltage	V_F				100	150	Vrms
Backlight Current Consumption	I_F					mA	

4.0 ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Test Condition	Standard Value		
			Min.	Max.	Unit
Supply Voltage (Logic)	$V_{DD}-V_{SS}$	25°C	-0.3	7	V
Supply Voltage (LCD)	V_0-V_{SS}		-0.3	32.0	V
Input Voltage	V_{IN}		-0.3	$V_{DD}+0.3$	V
Operating Temp.	T_{OPR}		-10	60	°C
Storage Temp.	T_{STG}		-20	70	°C

5.0 PIN ASSIGNMENT

PIN No.	Symbol	Description
1	V_0	Power supply for LCD
2	V_1	Bias Voltage for(Common drive)
3	V_2	Bias Voltage for(Common drive)
4	V_3	Bias Voltage for(Common drive)
5	V_4	Bias Voltage for(Common drive)
6	V_{SS}	Ground (0V), these two pads must be connected to each other
7	GND	Ground
8	NC	—
9	V_{DD}	Power supply for LCD
10	/DISP OFF	Control input for deselect output level
11	XCK	Display data shift clock input for segment mode
12	FRM	Input / output for chip select or data of shift register
13	LP	Latch pulse input / shift clock input for the shift register
14	FR	AC-converting signal input for LCD driver waveform
15~18	D_3-D_0	Input data signal

Remark

1. LCD option: STN, FSTN .
2. Customized module.
3. Backlight option: LED,EL backlight feature, other specs not available on catalog is under request.