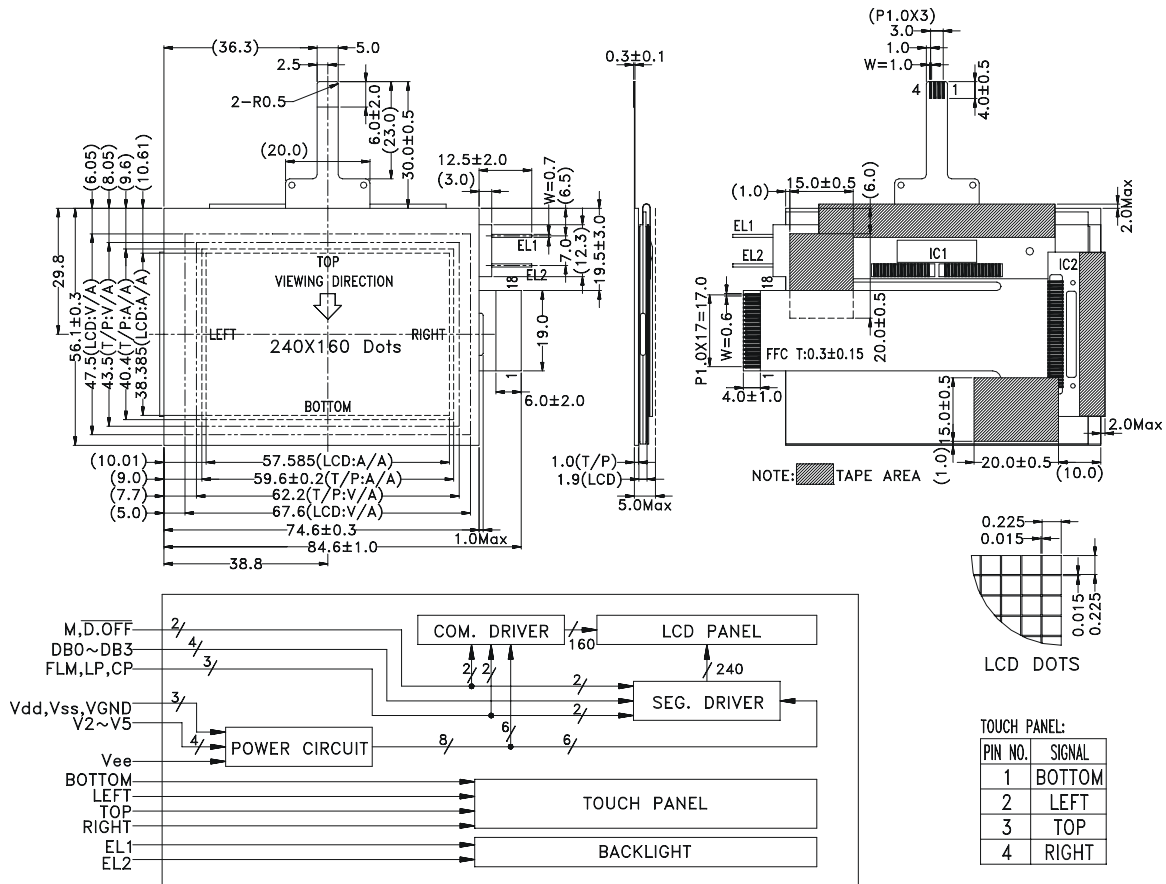


## OUTLINE DIMENSION & BLOCK DIAGRAM



### MECHANICAL SPECIFICATION

Overall Size	74.6 x 54.9 mm	Module	H2 / H1
View Area	67.6 x 47.5 mm	W/O B/L	2.9 / 5.0
Dot Size	0.225 x 0.225 mm	EL B/L	3.2 / 7.0
Dot Pitch	0.24 x 0.24 mm	LED B/L	- / -

### PIN ASSIGNMENT

Pin No.	Symbol	Function
1	V5	Bias voltage for non-select com.driver
2	V2	Bias voltage for non-select com.driver
3	VEE	Power supply voltage for LCD(+V)
4	VDD	Power supply voltage for logic
5	FRAME	Scan start-up signal
6	VGND	Ground
7	LOAD	Data latch pulse
8	VSS	Ground
9	DF	Frame reverse signal(Alternate signal)
10	/D.OFF	H: Display on L: Display off
11	CP	Data shift pulse
12	V4	Bias voltage for none-select(seg.driver)
13	V3	Bias voltage for none-select(seg.driver)
14-17	DB3-DB0	Data bus
18	NC	None connection

### ABSOLUTE MAXIMUM RATING

Item	Symbol	Condition	Min.	Max.	Units
Supply for logic voltage	V <sub>DD</sub> -V <sub>SS</sub>	25°C	-0.3	7.0	V
LCD driving supply voltage	V <sub>DD</sub> -V <sub>EE</sub>	25°C	-0.3	30.0	V
Input Voltage	V <sub>IN</sub>	25°C	-0.3	V <sub>DD</sub> +0.3	V

### ELECTRICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	Typical	Max.	Units	
Power supply voltage	V <sub>DD</sub> -V <sub>SS</sub>	25°C	2.7	5.0	5.5	V	
LCD operation voltage	V <sub>OP</sub>	T <sub>OP</sub>	N	W	N	W	V
		-20°C	-	20.2	-	20.8	V
		0°C	-	-	-	-	V
		25°C	-	18.2	-	18.8	V
		50°C	-	-	-	-	V
		70°C	-	16.2	-	16.8	V
LCM current consumption (No B/L)	I <sub>DD</sub>	V <sub>DD</sub> =5V	-	0.3	-	mA	
	I <sub>EE</sub>	V <sub>DD</sub> =5V	-	3.0	-	mA	
Backlight current consumption	EL	V <sub>OP</sub> =5V	-	40.0	--	mA	

### REMARK

LCD option: STN, FSTN

Backlight Option: EL backlight feature, other specs not available on catalog is under request.