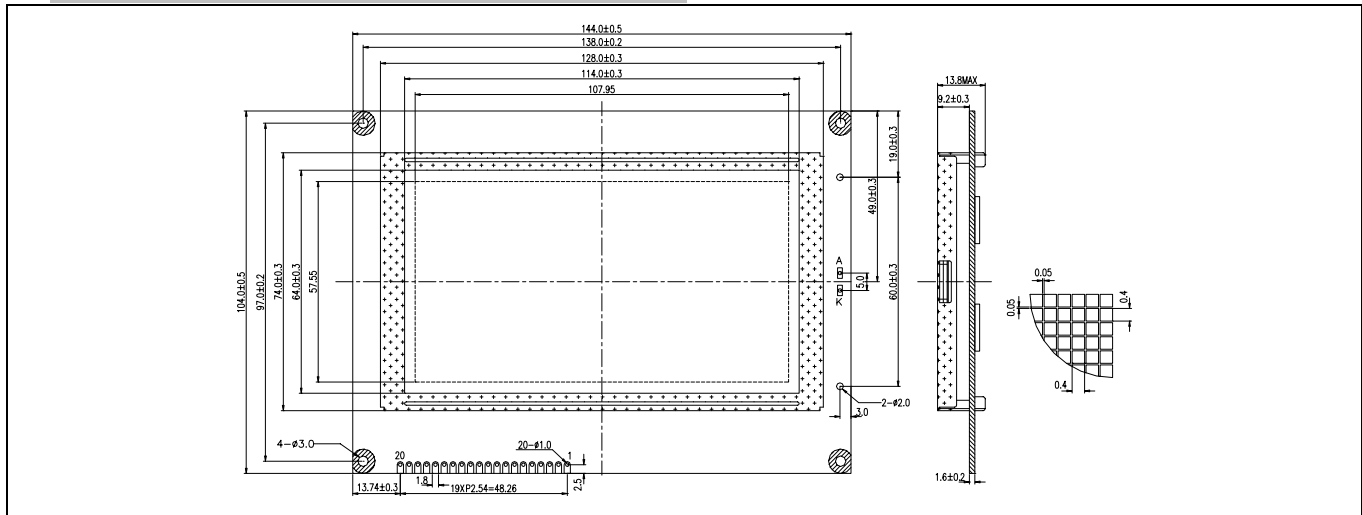


# HE245X50

240 X 128 Dots

## 1. EXTERNAL DIMENSION AND DISPLAY PATTERN



## 2. MECHANICAL DATA

ITEM	SPECIFICATION	UNIT
Module Size (W×H×T)	144.0×104.0×13.8	mm
Viewing Area (W×H)	114.0×64.0	mm
Number of Dots (W×H)	240×128	dots
Dot Pitch (W×H)	0.45×0.45	mm
Dot Size (W×H)	0.4×0.4	mm

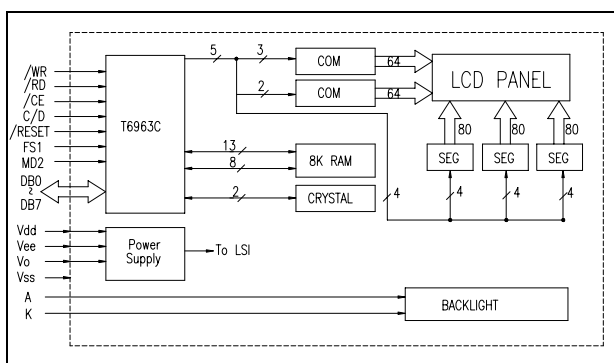
## 3. ELECTRICAL CHARACTERISTICS (Ta=25 °C)

ITEM	SYMBOL	CONDITION	SPEC. VALUE			UNIT	
			MIN.	TYP.	MAX.		
Supply Voltage (Logic)	$V_{DD} - V_{SS}$		4.5	5.0	5.5	V	
Supply Current (Logic)	$I_{DD}$	$V_{DD}=5V$	-	8.7	13.0	mA	
Input Voltage	"HIGH"	$V_{IH}$	-	$V_{DD} - 2.2$	-	$V_{DD}$	V
	"LOW"	$V_{IL}$	-	0	-	0.8	V
Output Voltage	"HIGH"	$V_{OH}$	$I_{OH}=3.0mA$	$V_{DD} - 0.3$	-	$V_{DD}$	V
	"LOW"	$V_{OL}$	$I_{OL}=3.0mA$	-	-	0.3	V
LCD Operating Voltage	$V_{DD} - V_o$	$V_{DD}=5V, Ta=25 °C$	-	16.6	-	V	
Supply Voltage LCD Drive	$I_o$		-	5.47	-	mA	

## 4. PIN CONFIGURATION

PIN	SYMBOL	SIGNAL DESCRIPTION	PIN	SYMBOL	SIGNAL DESCRIPTION
1	$V_{SS}$	Ground	12	DB <sub>5</sub>	Data Bit 5
2	$V_{DD}$	Logic Voltage	13	DB <sub>6</sub>	Data Bit 6
3	$V_o$	Operating Voltage for LCD (Variable)	14	DB <sub>7</sub>	Data Bit 7
4	C/D	H : Instruction Code, L : Data Code	15	/CE	Chip Enable Signal
5	/RD	Read Signal	16	/RES	Reset Signal
6	/WR	Write Signal	17	$V_{EE}$	Supply Voltage for LCD Driver
7	DB <sub>0</sub>	Data Bit 0	18	MD2	Number of Columns Select Signal
8	DB <sub>1</sub>	Data Bit 1	19	FS1	Font Select (H : 6X8 Dots, L : 8X8))
9	DB <sub>2</sub>	Data Bit 2	20	NC	No Connection
10	DB <sub>3</sub>	Data Bit 3	21	A	Anode of LED Unit
11	DB <sub>4</sub>	Data Bit 4	22	K	Cathode of LED Unit

## 5. BLOCK DIAGRAM



## 6. BACKLIGHTING CHARACTERISTICS (Ta=25 °C)

### LED

ITEM	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT
Supply Voltage	$V_{LED}$	-	-	4.1	4.5	V
Power Consumption	$P_{LED}$	$I_F=720mA$	-	2950	-	mW
Luminous	$I_V$	$I_F=720mA$	-	190	-	cd/m <sup>2</sup>