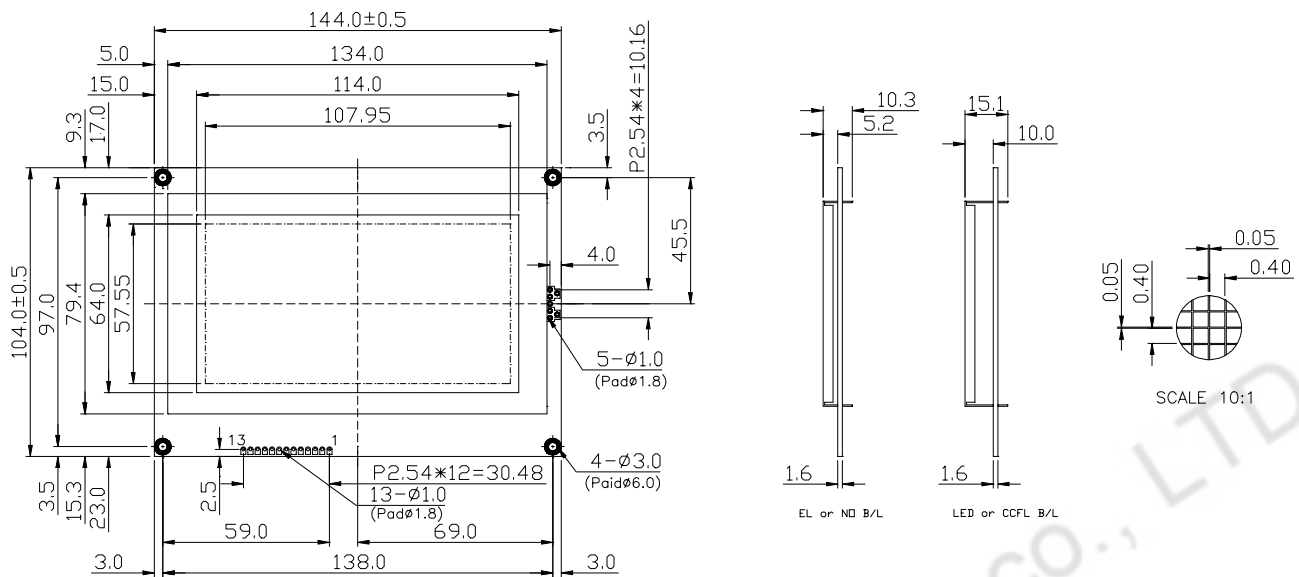




FEATURES

- ◆ NO BUILT-IN CONTROLLER
- ◆ 2.7~5.5V POWER SUPPLY
- ◆ 1/128 DUTY CYCLE
- ◆ 4-BIT PARALLEL INTERFACE

MECHANICAL DATA

ITEM	DIMENSIONS	UNIT
Module Size (W x H x T)	144.0 x 104.0 x 10.3 (15.1 LED)	mm
Viewing Area (W x H)	114.0 x 64.0	mm
Active Area (W x H)	107.95 x 57.55	mm
Dot Size (W x H)	0.40 x 0.40	mm
Dot Pitch (W x H)	0.45 x 0.45	mm

INTERFACE PIN CONNECTIONS

NO.	SYMBOL	LEVEL	FUNCTION
1	FLM	H	Frame Start Signal
2	M	H/L	Control Signal For AC Driving
3	LP	H→L	Common Driver Data Shift Signal
4	CP	H→L	Clock Pulse For Segment Shift Register
5	V _{DD}	5V	Power Supply Voltage
6	V _{SS}	0V	Power Supply Ground
7	V _{EE}	-	Power Supply Voltage For LCD
8	DB0	H/L	Data Bit0
9	DB1	H/L	Data Bit1
10	DB2	H/L	Data Bit2
11	DB3	H/L	Data Bit3
12	V _O	-	Contrast Adjustment Voltage
13	NC	-	No Connection

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT
Supply Voltage For Logic	V _{DD} -V _{SS}	0	-	7	V
Supply Voltage For LCD Drive	V _{DD} -V _O	0	-	28	V
Input Voltage	V _I	V _{SS}	-	V _{DD}	V

ELECTRICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage For Logic	V _{DD} -V _{SS}	-	2.7	5	5.5	V
LCD Supply Voltage	V _{DD} -V _O	V _{DD} =5V Ta=25°C	16.9	18	19.2	V
Supply Current	I _{DD}	V _{DD} =5V	-	15	24	mA
Input Voltage	"HIGH" Level	V _{IH}	-	2.2	-	V _{DD} V
	"LOW" Level	V _{IL}	-	-	-	0.6 V
Output Voltage	"HIGH" Level	V _{OH}	-	2.4	-	V
	"LOW" Level	V _{OL}	-	-	-	0.4 V