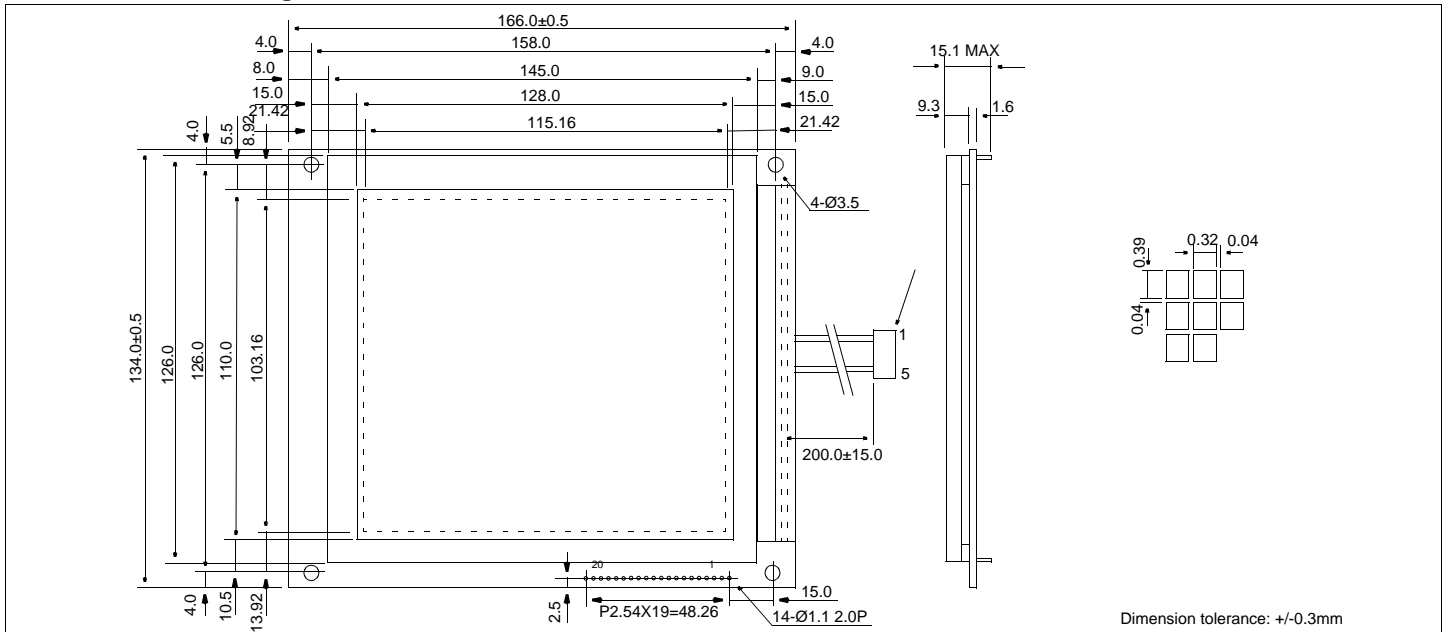


HDM3224-7

Dimensional Drawing

320 X 240 Dots Graphics Large Size CCFL Backlight



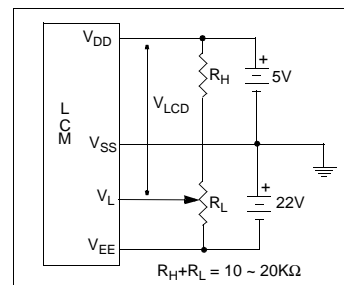
Features

Backlight.....CCFL
 Options.....Gray STN / Yellow STN / FSTN
 Normal/Extended Temperature
 Bottom / Top Viewing
 Built-in Controller.....None

Physical Data

Module Size.....166.0W x 134.0H x 15.1T mm
 Viewing Area Size.....128.0W x 110.0H mm
 Dot Pitch.....0.36W x 0.43H mm
 Dot Size.....0.32W x 0.39H mm
 Weight.....350g

Power Supply



Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	$V_{DD}-V_{SS}$	0	7.0	V
SUPPLY VOLTAGE FOR LCD	$V_{DD}-V_{EE}$	0	30.0	V
INPUT VOLTAGE	V_{IN}	-	7.0	V
OPERATING TEMPERATURE	T_{OP}	0	50	°C
STORAGE TEMPERATURE	T_{STG}	-20	70	°C

Electrical Characteristics (VDD=5.0±0.25V 25°C)

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
INPUT HIGH VOLTAGE	V_{IH}	-	0.7 V_{DD}	-	-	V
INPUT LOW VOLTAGE	V_{IL}	-	-	-	0.3 V_{DD}	V
OUTPUT HIGH VOLTAGE	V_{OH}	$I_{OH}=0.4mA$	$V_{DD}-0.4$	-	-	V
OUTPUT LOW VOLTAGE	V_{OL}	$I_{OL}=0.4mA$	-	-	0.4	V
SUPPLY VOLTAGE	V_{DD}	-	4.75	5.0	5.25	V
	$-V_{EE}$	-	-	22.2	-	V
POWER SUPPLY CURRENT	I_{DD}	$V_{DD}=5.0V$	-	4.4	-	mA
	$-I_{EE}$	$V_{EE}=-22.7V$	-	4.1	-	mA
FRAME FREQUENCY	f_{FP}	-	65	72	80	Hz
DRIVE METHOD	1/240 DUTY					

Pin Connections

PIN NO.	SYMBOL	FUNCTION	
1	NC	No Connection	
2	NC		
3	NC		
4	NC		
5	NC		
6	NC		
7	INHX	H/L	1 = Display ON, 0 = Display OFF
8	DB0	H/L	Data bus
9	DB1	H/L	
10	DB2	H/L	
11	DB3	H/L	
12	FLM	H/L	Frame Pulse
13	M	H/L	Liquid Crystal AC drive signal
14	CL2	H/H→L	Data Shift
15	CL1	H/H→L	Data latch signal
16	V_{DD}	+5v	Logic Power Supply
17	V_{SS}	-	Ground
18	V_L	-	Operating voltage for LC
1'9	V_{EE}	-	Power supply voltage for LC
20	FGND	-	Frame ground
CCFL CONNECTOR			
1	AC IN	-	AC Input power
5	AC IN	-	AC Input power