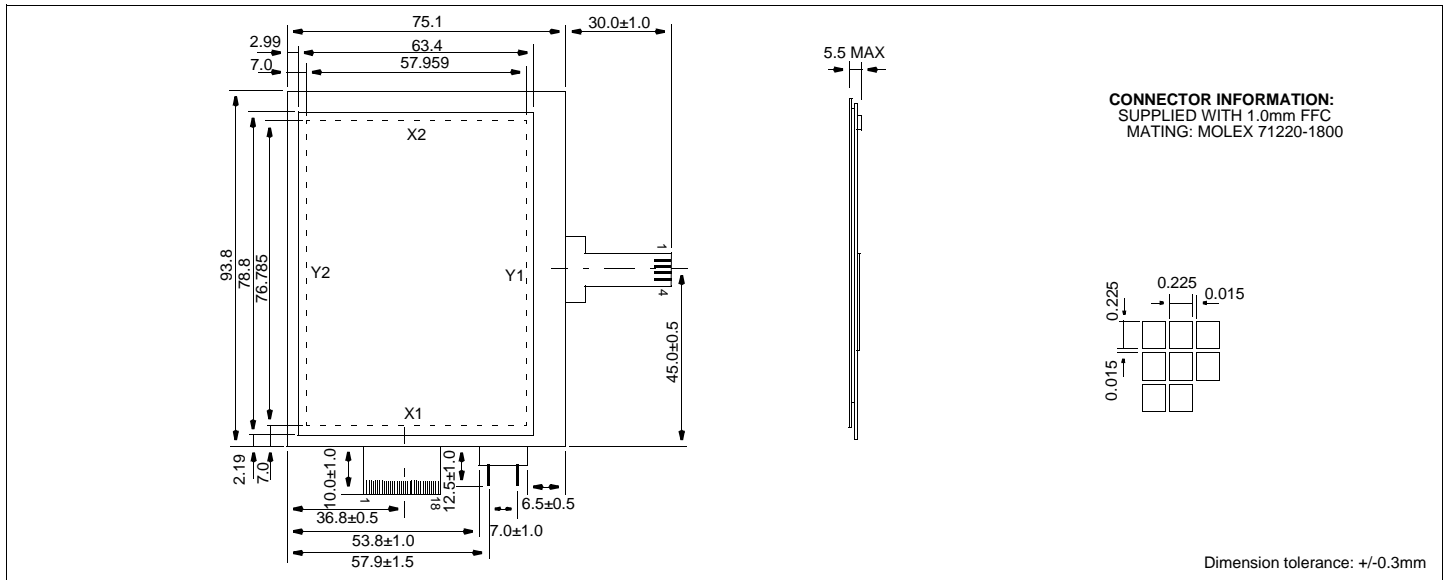


HDM3224TS-S

Dimensional Drawing

320 X 240 Dots Graphic, Small Size, w/Touch Screen



Features

- Backlight.....EL
- Options.....Black and White FSTN
 Extended Temperature
 Bottom Viewing
- Built-in Controller.....None

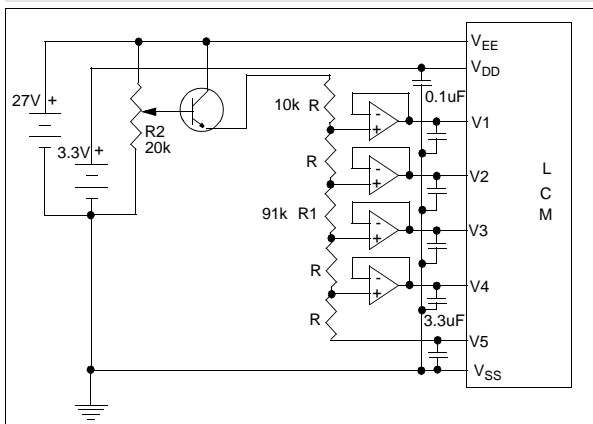
Physical Data

- Module Size.....93.8W x .75.1H x 5.5T mm
- Viewing Area Size.....78.8W x 63.4H mm
- Dot Pitch.....0.24W x 0.24H mm
- Dot Size.....0.225W x 0.225H mm
- Weight......48g

Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	$V_{DD}-V_{SS}$	0	7.0	V
SUPPLY VOLTAGE FOR LCD	$V_{EE}-V_{SS}$	0	30.0	V
INPUT VOLTAGE	V_{IN}	-	7.0	V
OPERATING TEMPERATURE	T_{OP}	-20	70	°C
STORAGE TEMPERATURE	T_{STG}	-30	80	°C

Power Supply



Electrical Characteristics (VDD=3.3±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}	-	3.0	3.3	3.6	V
	V_{EE}	-	25.0	22.7	20.3	V
DRIVE METHOD	1/240 DUTY					

Pin Connections

PIN NO.	SYMBOL	LEVEL	FUNCTION
DATA CONNECTOR			
1	V5	-	Bias voltage (Common driver)
2	V2	-	
3	V_{EE}	-	Power supply for LCD
4	V_{DD}	3.3V	Power supply for logic
5	FLM	H/L	First Line Marker
6	V_{GND}	-	Gnd for V_{EE} power supply
7	CL1	H/L	Data Latch clock
8	V_{SS}	0V	Ground
9	M	H/L	AC signal
10	D_{OFF}	H/L	H= Display ON, L = Display OFF
11	CL2	H/L	Data shift clock
12	V4		Bias voltage (Segment driver)
13	V3		
14	D3	H/L	Display data
15	D2	H/L	
16	D1	H/L	
17	D0	H/L	
18	N/C	-	No connection
TOUCH PANEL CONNECTOR			
1	Y_2	-	Touch panel connections
2	X_2	-	
3	Y_1	-	
4	X_1	-	