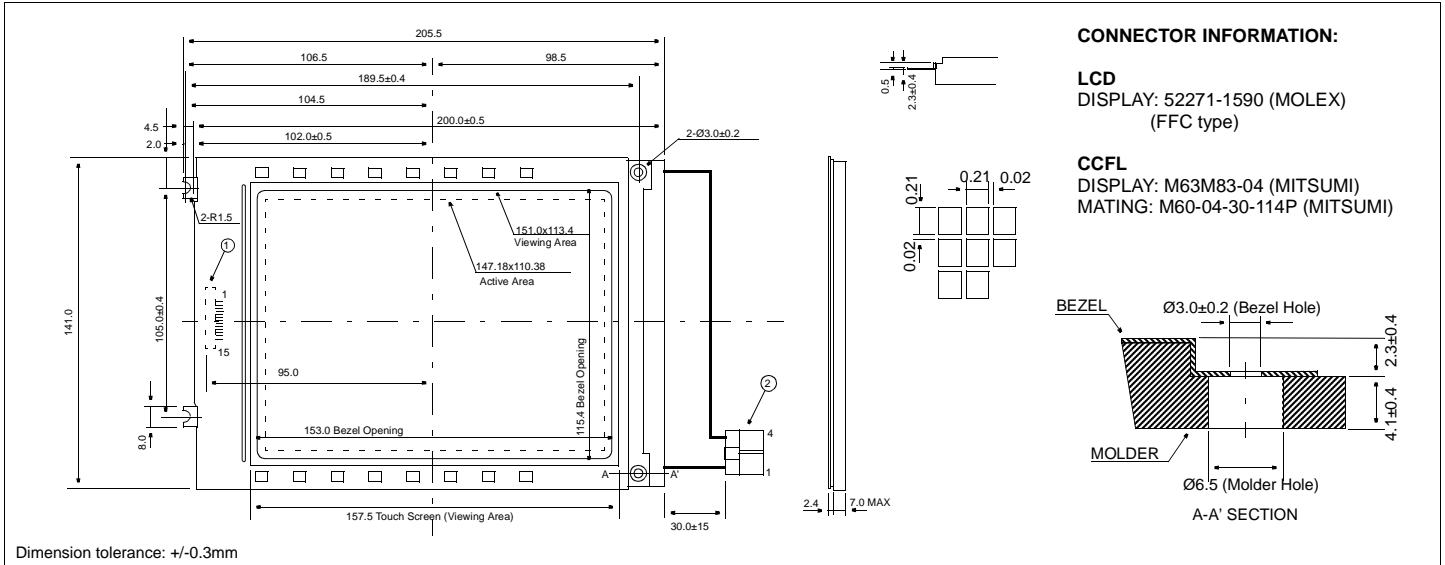


# HDM6448-S

## Dimensional Drawing

640 X 480 7.4" VGA Monochrome



### Features

Backlight.....CCFL  
Options.....Black and White FSTN  
Built-in Controller.....None

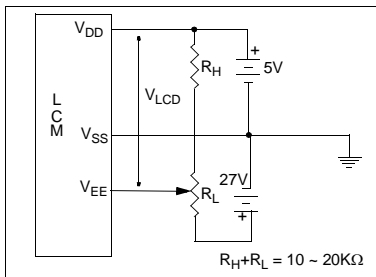
### Physical Data

Module Size.....205.5W x 141.0H x 7.0T mm  
Viewing Area Size.....151.0W x 113.4H mm  
Dot Pitch.....0.23W x 0.23H mm  
Dot Size.....0.21W x 0.21H mm

### Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	$V_{DD}-V_{SS}$	-0.3	6.5	V
SUPPLY VOLTAGE FOR LCD	$V_{EE}-V_{SS}$	0	27.0	
INPUT VOLTAGE	$V_{IN}$	-0.3	$V_{DD}+0.3$	V
OPERATING TEMPERATURE	$T_{OP}$	0	50	°C
STORAGE TEMPERATURE	$T_{STG}$	-20	70	°C
HUMIDITY (NO CONDENSATION)	-	10	85	%RH

### Power Supply



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

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
SUPPLY VOLTAGE	$V_{DD}$	-	4.75	5.0	5.25	V
	$V_{EE}$	$V_{EE}-V_{SS}$	21.3	22.7	23.1	V
POWER SUPPLY CURRENT	$I_{DD}$	$V_{DD}=5.0V$		2.0	4.0	mA
	$I_{EE}$	$V_{EE}=+22.7V$		6.8	13.0	mA
INPUT HIGH VOLTAGE	$V_{IH}$	-	4.5	-	$V_{DD}$	V
INPUT LOW VOLTAGE	$V_{IL}$	-	0.3	-	0.5	V
CCFL OP. VOLTAGE	$V_{FL}$	$I_{FL}=5mArms$	200	350	600	Vrms
CCFL OP. CURRENT	$I_{FL}$	$V_{FL}=350V$	4.0	5.0	6.0	mA
CCFL START VOLTAGE	$V_{FLS}$	-	600	-	-	Vrms
CCFL FREQUENCY	$f_{FL}$	-	-	35	-	kHz
FRAME FREQUENCY	$f_{FP}$	-	65	72	80	Hz
DRIVE METHOD	1/240 DUTY					

### Pin Connections

PIN NO.	SYMBOL	LEVEL	FUNCTION
<b>DATA CONNECTOR</b>			
1	FP	H	First Line Marker
2	LP	H/L	Data Latch
3	SCP	H/L	Shift clock
4	DISPOFF	H/L	H=On, L=Off
5	$V_{DD}$	5V	Power supply for logic
6	$V_{SS}$	0V	Ground
7	$V_{EE}$	-	Operating voltage for LC
8	UD0	H/L	Upper screen data input
9	UD1	H/L	Upper screen data input
10	UD2	H/L	Upper screen data input
11	UD3	H/L	Upper screen data input
12	LD0	H/L	Lower screen data input
13	LD1	H/L	Lower screen data input
14	LD2	H/L	Lower screen data input
15	LD3	H/L	Lower screen data input
<b>CCFL CONNECTOR</b>			
1	$V_{FL}$	-	Power supply for CCFL
2	NC	-	No Connection
3	NC	-	No Connection
4	$V_{FLG}$	-	Ground