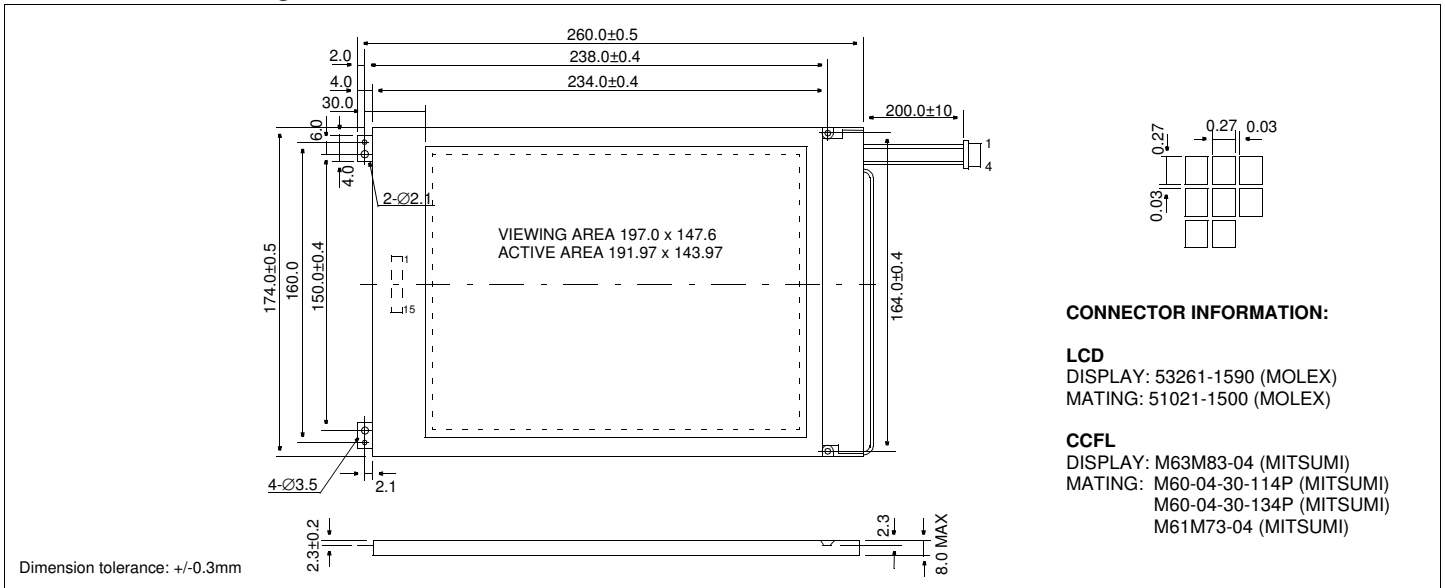


HDM6448-1

Dimensional Drawing

640 X 480 9.5" VGA Monochrome



Features

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

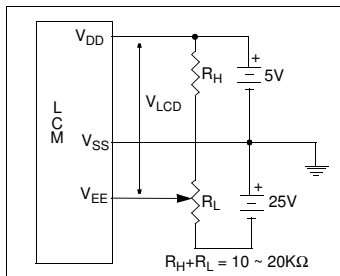
Physical Data

Module Size.....260.0W x 174.0H x 8.0T mm
Viewing Area Size.....197.0W x 147.6H mm
Dot Pitch.....0.30W x 0.30H mm
Dot Size.....0.27W x 0.27H mm
Weight.....354g

Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	$V_{DD}-V_{SS}$	-0.3	6.5	V
SUPPLY VOLTAGE FOR LCD	$V_{DD}-V_{EE}$	0	27.0	V
INPUT VOLTAGE	V_{IN}	-0.3	$V_{DD}+0.3$	V
CCFL OPERATING VOLTAGE	V_{FL}	-	1500	Vrms
CCFL OPERATING CURRENT	I_{FL}	-	10	mA rms
OPERATING TEMPERATURE	T_{OP}	0	50	°C
STORAGE TEMPERATURE	T_{STG}	-25	60	°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
	$-V_{EE}$	-	13.6	17.0	19.8	V
POWER SUPPLY CURRENT	I_{DD}	$V_{DD}=5.0V$	-	30.0	-	mA
	$-I_{EE}$	$V_{EE}=-17.0V$	-	20.0	-	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}	$I_{FL}=5mA_{rms}$	-	450	-	Vrms
CCFL OP. CURRENT	I_{FL}	$V_{FL}=360V$	-	5.0	-	mA
CCFL START VOLTAGE	V_{FLS}	$T_a=0^\circ C$	-	-	-	Vrms
CCFL FREQUENCY	f_{FL}	-	-	30	-	kHz
FRAME FREQUENCY	f_{FP}	-	65	72	80	Hz
DRIVE METHOD	1/240 DUTY					

Pin Connections

PIN NO.	SYMBOL	LEVEL	FUNCTION
DATA CONNECTOR			
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
CCFL CONNECTOR			
1	V_{FLG}	-	Ground
2	NC	-	No Connection
3	NC	-	No Connection
4	V_{FL}	-	Power supply for CCFL