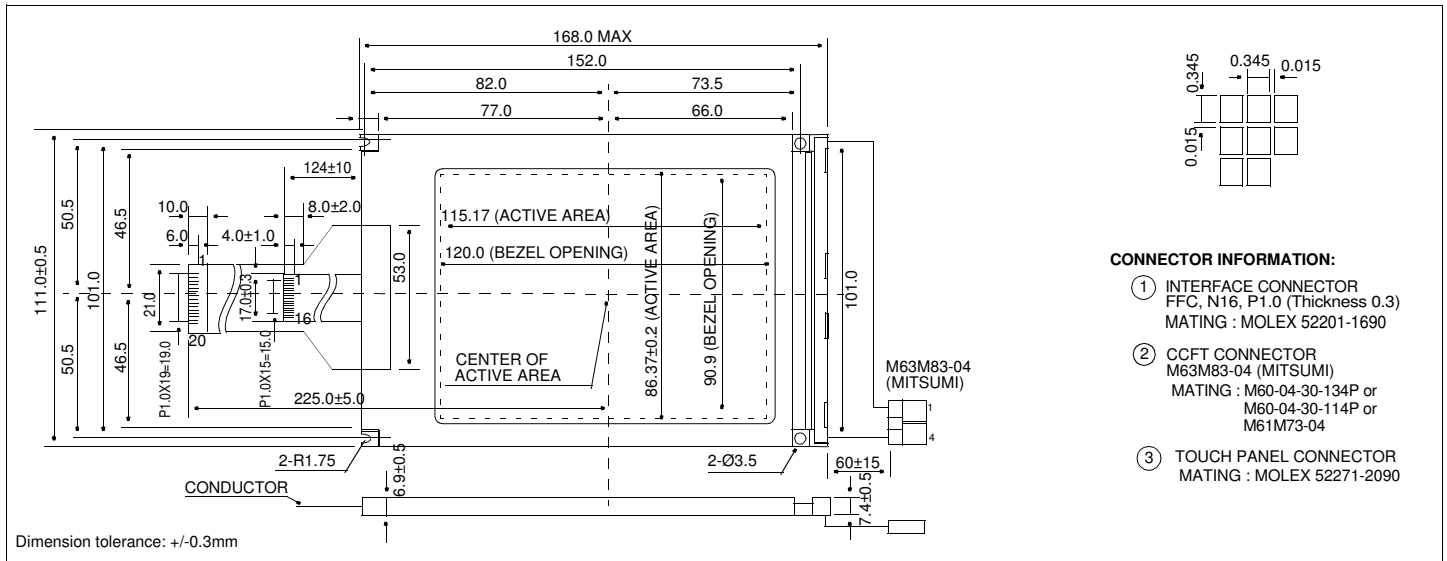


HDM3224TS-2

Dimensional Drawing

320 X 240 Dots Graphic CCFL Backlight w/Touch Screen



CONNECTOR INFORMATION:

- ① INTERFACE CONNECTOR
FFC, N16, P1.0 (Thickness 0.3)
MATING : MOLEX 52201-1690
- ② CCFL CONNECTOR
M63M83-04 (MITSUMI)
MATING : M60-04-30-134P or
M60-04-30-114P or
M61M73-04
- ③ TOUCH PANEL CONNECTOR
MATING : MOLEX 52271-2090

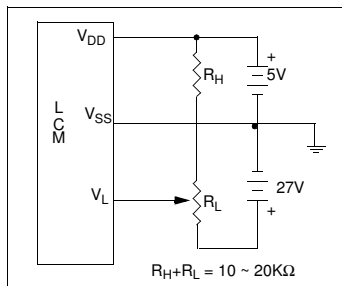
Features

Backlight.....CCFL
Options.....STN/Black and White FSTN
Normal/Extended Temperature
Bottom / Top Viewing
Built-in Controller.....None

Physical Data

Module Size.....168.0W x 111.0H x 9.0T mm
Viewing Area Size.....120.0W x 90.0H mm
Dot Pitch.....0.36W x 0.36H mm
Dot Size.....0.345W x 0.345H mm
Weight.....230g

Power Supply



Electrical Characteristics ($V_{DD}=5.0\pm 0.25V$, $T_a=25^\circ C$)

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
SUPPLY VOLTAGE	V_{DD}	-	4.75	5.0	5.25	V
	V_{LCD}	-	22.1	22.5	22.9	V
SUPPLY CURRENT	I_{DD}	FLM= 70 Hz $V_{LCD}= 22.5V$	-	0.6	0.9	mA
	I_{LCD}	-	-	6.0	10.4	mA
CCFL OP. VOLTAGE	V_{FL}	-	-	260	-	Vrms
CCFL OP. CURRENT	I_{FL}	-	2	5	6	mA
CCFL OP. FREQUENCY	F_L	-	20	35	50	kHz
DRIVE METHOD	1/240 DUTY					

Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	$V_{DD}-V_{SS}$	-0.3	7.0	V
SUPPLY VOLTAGE FOR LCD	$V_{EE}-V_{SS}$	0	30.0	V
INPUT VOLTAGE	V_{IN}	-0.3	V_{DD}	V
OPERATING TEMPERATURE	T_{OP}	0	50	$^\circ C$
STORAGE TEMPERATURE	T_{STG}	-20	70	$^\circ C$

Pin Connections

PIN NO.	SYMBOL	LEVEL	FUNCTION
DATA CONNECTOR			
1	FRAME	H	First Line Marker
2	LOAD	H/L	Data Latch
3	CP	H/L	Data shift
4	DISPOFF	H/L	H= On, L= Off
5	V_{DD}	5V	Power supply for logic
6	V_{SS}	0V	Ground
7	V_L	-	Operating voltage for LC
8 - 11	D0 - D3	H/L	Data Bus
12 - 15	D4 - D7	-	No Connection
16	V_{SS}	0V	Ground
CCFL CONNECTOR			
1	V_{CFL}	-	Power supply for CCFL
2	NC	-	No Connection
3	NC	-	No Connection
4	V_{CFL}	-	CCFL Ground

Touch Panel Connector

PIN	SYM	PIN	SYM	PIN	SYM	PIN	SYM	PIN	SYM
1	N.C	5	C7	9	R2	13	R6	17	C2
2	C10	6	C6	10	R3	14	R7	18	C3
3	C9	7	N.C.	11	R4	15	N.C.	19	C4
4	C8	8	R1	12	R5	16	C1	20	C5