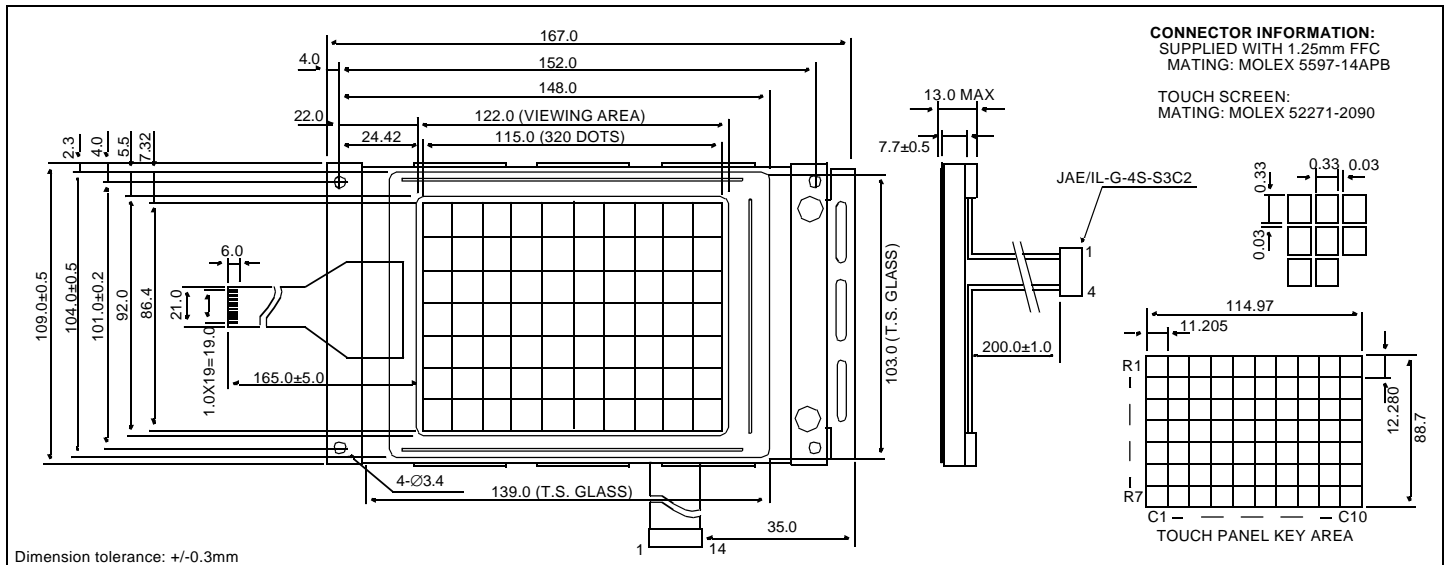


HDM 3224TS-1

Dimensional Drawing

320 X 240 Dots Graphic CCFL Backlight w/ Touch Screen



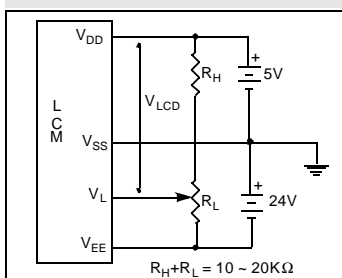
Features

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

Physical Data

- Module Size.....167.0W x 109.0H x 13.0T mm
- Viewing Area Size.....122.0W x 92.0H mm
- Dot Pitch.....0.36W x 0.36H mm
- Dot Size.....0.33W x 0.33H mm
- Weight.....205g

Power Supply



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

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
INPUT HIGH VOLTAGE	V _{IH}	-	0.8 V _{DD}	-	-	V
INPUT LOW VOLTAGE	V _{IL}	-	-	-	0.2 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 _{LCD}	-	22.1	22.5	22.9	V
DRIVE METHOD	1/240 DUTY					

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

Pin Connections

PIN NO.	SYMBOL	LEVEL	FUNCTION
DATA CONNECTOR			
1	D0	H/L	Display Data
2	D1		
3	D2		
4	D3		
5	DISPOFF	H/L	H = On, L = Off
6	FRAME	H	First Line Marker
7	NC	-	No Connection
8	LOAD	H/L	Data Latch
9	CP	H/L	Data shift
10	V _{DD}	5V	Power supply for logic
11	V _{SS}	0V	Ground
12	V _{EE}	-22V	Power supply for LCD
13	V _L	-	Operating voltage for LC
14	FGND	-	Front panel 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