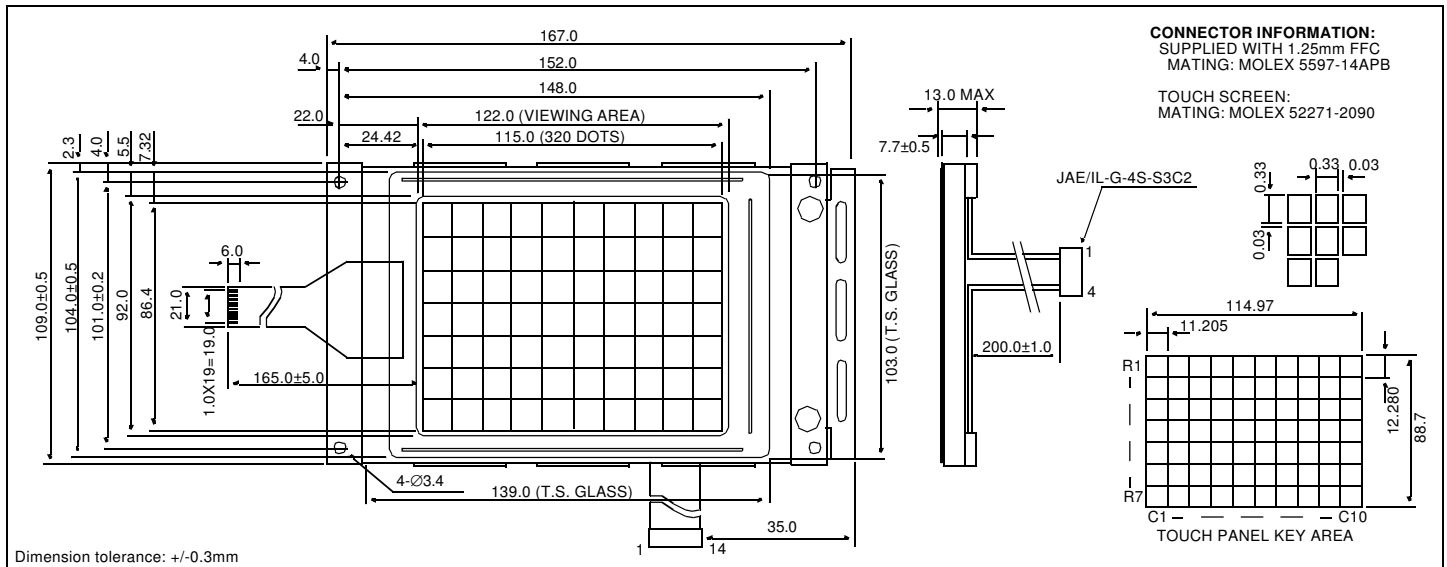


HDM 3224TS-1

Dimensional Drawing

320 X 240 Dots Graphic CCFL Backlight w/ Touch Screen



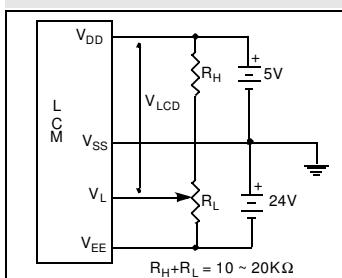
Features

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