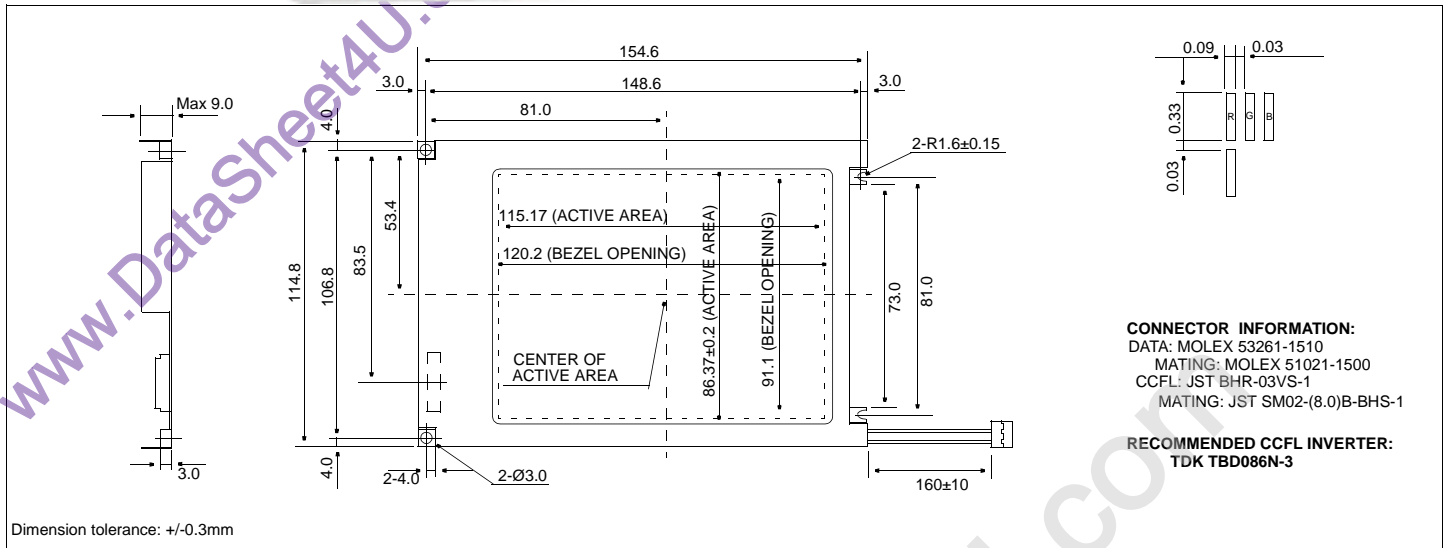


HDM 3224-CL
 Dimensional Drawing

220 X 240 P, Color Graphic "L" Shaped CCFL Backlight



CONNECTOR INFORMATION:
 DATA: MOLEX 53261-1510
 MATING: MOLEX 51021-1500
 CCFL: JST BHR-03VS-1
 MATING: JST SM02-(8.0)B-BHS-1

RECOMMENDED CCFL INVERTER:
 TDK TBD086N-3

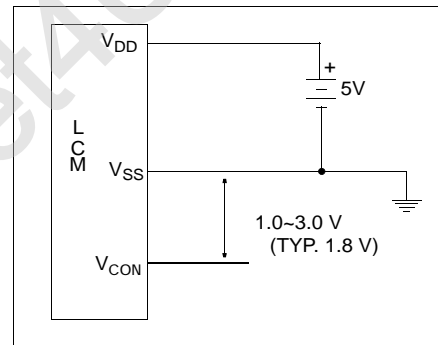
Features

- Backlight.....CCFL
- Options.....Color RGB
- Top/ Bottom Viewing
- Built-in Controller.....None
- Built-in DC-DC Inverter

Physical Data

- Module Size.....154.6W x 114.8H x 9.0T mm
- Viewing Area Size.....120.2W x 91.1H mm
- Dot Pitch.....0.12W x 0.36H mm
- Dot Size.....0.09W x 0.33H mm
- Weight.....195g

Power Supply



Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	$V_{DD}-V_{SS}$	-0.3	7.0	V
SUPPLY VOLTAGE FOR LCD	V_{CON}	1.0	3.0	V
INPUT VOLTAGE	V_{IN}	-0.3	$V_{DD}+0.3$	V
OPERATING TEMPERATURE	T_{OP}	0	50	°C
STORAGE TEMPERATURE	T_{SIG}	-20	70	°C

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

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
INPUT HIGH VOLTAGE	V_{IH}	-	.8 V_{DD}	-	V_{DD}	V
INPUT LOW VOLTAGE	V_{IL}	-	0	-	.2 V_{DD}	V
SUPPLY VOLTAGE	V_{DD}	-	4.5	5.0	5.5	V
	V_{CON}	-	1.0	1.8	3.0	V
SUPPLY CURRENT	I_{DD}	$V_{DD}=5.0V$	-	33.0	50.0	mA
	I_{CON}	$V_{CON}=1.8V$	-	0.7	1.0	mA
CCFL OP. VOLTAGE	V_{FL}			474		Vrms
CCFL OP. CURRENT	I_{FL}		2	5	6	mArms
CCFL START VTG.	V_{SL}	$T_a=25°C$			750	Vrms
CCFL FREQUENCY	F_{FL}		35	50	65	KHz
BRIGHTNESS	L					NIT
DRIVE METHOD			1/240 DUTY			

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_{CON}	-	Contrast Adjust Voltage
8	D7	H/L	Data bus
9	D6	H/L	
10	D5	H/L	
11	D4	H/L	
12	D3	H/L	
13	D2	H/L	
14	D1	H/L	
15	D0	H/L	
CCFL CONNECTOR			
1	V_{CFL}	-	Power supply for CCFL
2	NC	-	No Connection
3	V_{CFL}	-	CCFL Ground