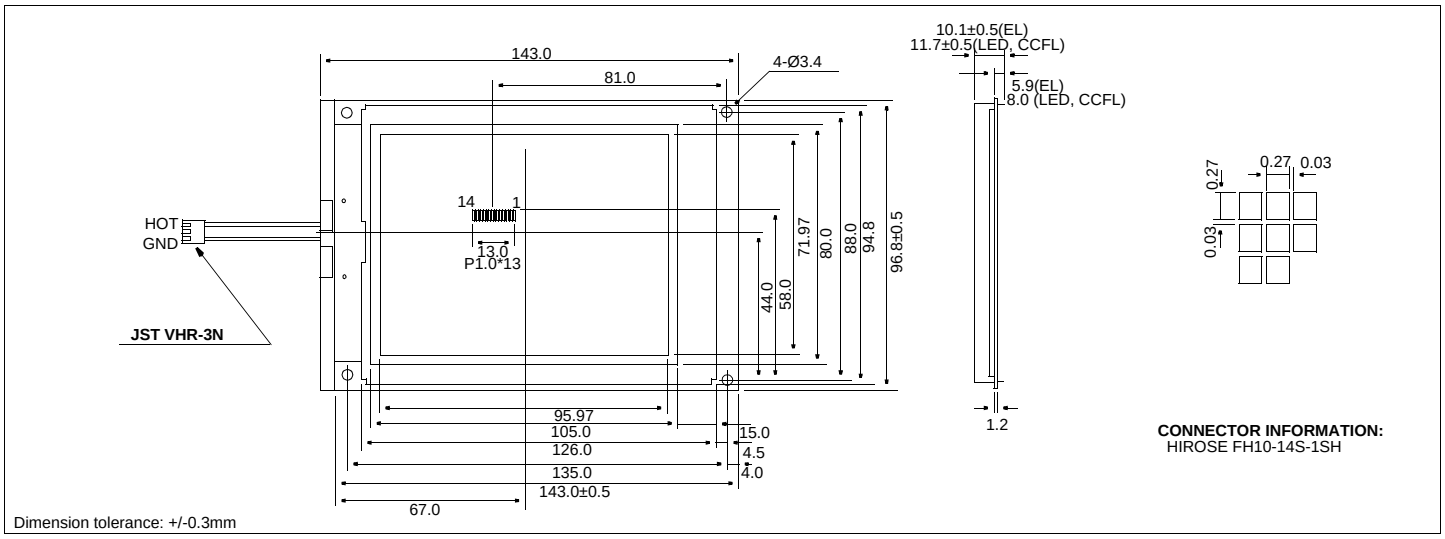
HDM3224-6

Dimensional Drawing

320 X 240 Dots Graphic CCFL Backlight



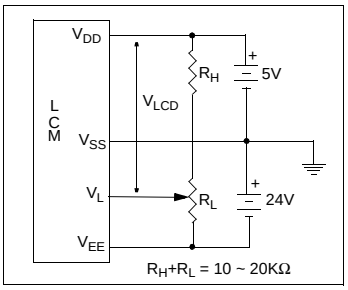
Features

Backlight.....EL, LED or CCFL
Options.....STN/Black and White FSTN
Built-in Controller.....None

Physical Data

Module Size.....143.0W x 96.8H x 12.0T mm
Viewing Area Size.....105.0W x 80.0H mm
Dot Pitch.....0.30W x 0.30H mm
Dot Size.....0.27W x 0.27H mm
Weight.....220g

Power Supply



Pin Connections

PIN NO.	SYMBOL	FUNCTION	
1	FLM	H/L	Frame signal
2	M	-	Alternate signal
3	LP	H/H→L	Data latch signal
4	XSCL	H/H→L	Serial shift clock
5	DISPOFF	L	Display off
6	DB0	H/L	Data bus
7	DB1	H/L	
8	DB2	H/L	
9	DB3	H/L	
10	V_{DD}	5V	Power supply for logic
11	V_{SS}	0V	Ground
12	V_{EE}	-	Power supply voltage for LC
13	V_L	-	Operating voltage for LC
14	FG	-	Frame ground

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	28.5	V
INPUT VOLTAGE	V_{IN}	-	7.0	V
OPERATING TEMPERATURE	T_{OP}	0	50	°C
STORAGE TEMPERATURE	T_{STG}	-20	70	°C
CCFL OPERATING VOLTAGE	V_{FL}	-	1500	Vrms
CCFL OPERATING CURRENT	I_{FL}	-	10	mA
CCFL OPERATING FREQUENCY	f_{FL}	20	80	KhZ

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

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
INPUT HIGH VOLTAGE	V_{IH}	-	0.7 V_{DD}	-	-	V
INPUT LOW VOLTAGE	V_{IL}	-	-	-	0.3 VDD	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}	-	4.5	5.0	5.5	V
	-V_{EE}	-	20.4	20.9	21.5	V
POWER SUPPLY CURRENT	I_{DD}	V_{DD}=5.0V	-	8.0	16	mA
	-I_{EE}	V_{EE}=-18.5V	-	7.0	14.0	mA
POWER SUPPLY FOR LCD	V_{DD}-V_L	T_A=25°C	-	25.9	-	V
CCFL OPERATING VOLTAGE	V_{FL}	I_{FL}=5mArms	-	300	-	Vrms
CCFL OPERATING CURRENT	I_{FL}	V_{FL}=300Vrms	-	5.0	-	mArms
CCFL OPERATING FREQ.	f_{FL}	-	25	45	-	kHz
FRAME FREQUENCY	f_{FP}	-	65	72	80	Hz
BRIGHTNESS	L	I_{FL}=5mArms	40	55	-	cd/m^2
DRIVE METHOD	1/240 DUTY					