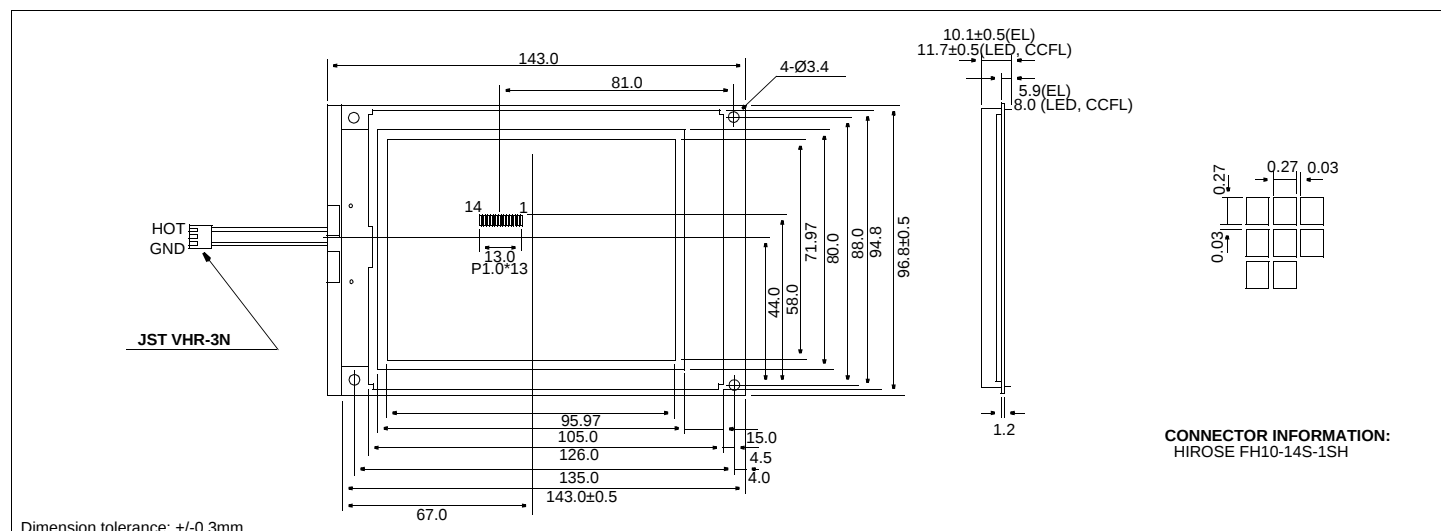


Dimensional Drawing

320 X 240 Dots Graphic CCFL Backlight



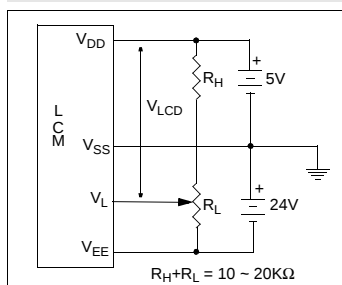
Features

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 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}	-	4.5	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	$V_{DD}-V_L$	$T_A=25^{\circ}C$	-	25.9	-	V
CCFL OPERATING VOLTAGE	V_{FL}	$I_{FL}=5mA_{rms}$	-	300	-	Vrms
CCFL OPERATING CURRENT	I_{FL}	$V_{FL}=300V_{rms}$	-	5.0	-	mA _{rms}
CCFL OPERATING FREQ.	f_{FL}	-	25	45	-	kHz
FRAME FREQUENCY	f_{FP}	-	65	72	80	Hz
BRIGHTNESS	L	$I_{FL}=5mA_{rms}$	40	55	-	cd/m ²
DRIVE METHOD	1/240 DUTY					