

# 24128 240 x 128dots 1/128 Duty

# STN/B&W Reflective/EL B/L

### MECHANICAL DATA

Item	Dimension	Unit
Module Size	144.0(W) x 104.0(H) x 12.5(T)	mm
View Area	114.0(W) x 64.0(H)	mm
Dot Size	0.4 x 0.4	mm
Dot Pitch	0.45 x 0.45	mm

### ABSOLUTELY MAXIMUM RATINGS

Item	Symbol	Standard Value			Unit
		Min	Typ.	Max.	
Supply Voltage for Logic	V <sub>DD</sub> -V <sub>SS</sub>	0	--	7.0	V
Supply Voltage for LCD Drive	V <sub>DD</sub> -V <sub>EE</sub>	0	--	28.0	V
Input Voltage	V <sub>I</sub>	V <sub>SS</sub>	--	V <sub>DD</sub>	V

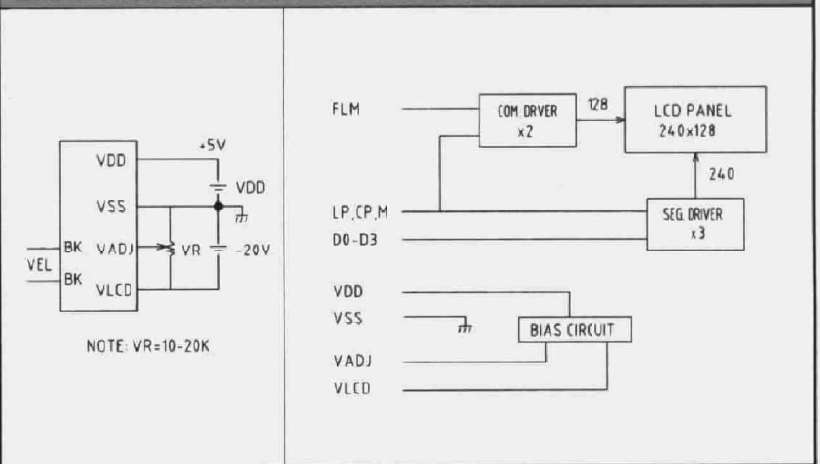
### ELECTRICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Logic circuit Power Supply Voltage	V <sub>DD</sub> -V <sub>SS</sub>	--	4.5	5.0	5.5	V
LCD Driver Circuit Power Supply Voltage	V <sub>DD</sub> -V <sub>EE</sub>	--	--	15	--	V
	V <sub>DD</sub> -V <sub>ADJ</sub>	25°C	18.7	19.6	20.5	V
Supply Current	I <sub>DD</sub>	V <sub>DD</sub> =5V	--	3.0	5.0	mA
	I <sub>EE</sub>	V <sub>DD</sub> =5V	--	3.5	5.0	
Input Voltage "H" Level	V <sub>IH</sub>	High Level	0.7x V <sub>DD</sub>	--	V <sub>DD</sub>	V
Input Voltage "L" Level	V <sub>IL</sub>	Low Level	V <sub>SS</sub>	--	0.3x V <sub>DD</sub>	V

### PIN FUNCTIONS

Pin No.	Symbol	Level	Function
1	FLM	H	Frame Signal
2	CP	H→L	Clock Signal for Shifting Parallel Data
3	LP	H→L	Data Latch Signal
4	M	H/L	Alternate Signal for LCD Drive
5	V <sub>DD</sub>	--	Power Supply for Logic
6	V <sub>SS</sub>	--	Power Supply (0V, GND)
7	V <sub>EE</sub>	--	Power Supply for LCD Drive
8	D0	H/L	Display data0
9	D1	H/L	Display data1
10	D2	H/L	Display data2
11	D3	H/L	Display data3
12	V <sub>ADJ</sub>	--	Voltage Level for LCD Contrast
13	EL	--	Power Supply for EL
14	EL	--	Power Supply for EL

### BLOCK DIAGRAM



### DIMENSION OUTLINE

