



**DIMENSIONAL DATA**

Item	Measurement (W) x (H) x (T)	Unit
Module Dimension	180 x 65 x 10 Max. (Reflective)	mm
Viewing Area	135 x 40	mm
Dot Pitch	0.53 x 0.53	mm
Dot Size	0.49 x 0.49	mm
Weight	200	g
Controller/Driver	LC7981	

**ABSOLUTE MAXIMUM RATINGS**

Item	Symbol	Condition	Min.	Max.	Unit
Supply Voltage (Logic)	$V_{DD} - V_{SS}$	0		7.0	V
Supply Voltage(LCD)	$V_{DD} - V_O$	0		19.0	V
Input Voltage	$V_I$	$T_a = 25\text{ C}$	$V_{SS}-0.3$	$V_{DD}+0.3$	V
Operating Temp.	opr		0	50	C
Storage Temp.	Tstg		-20	70	C

**ELECTRICAL CHARACTERISTIC**

Item	Symbol	Condition	Value			Unit
			Min.	Typ.	Max.	
Supply Voltage (Logic)	$V_{DD}-V_{SS}$	--	4.5	5.0	5.5	V
Supply Voltage (LCD)	$V_{DD}-V_O$	--	--	12	--	V
Supply Current	$I_{DD}$	$V_{DD}-V_{SS}=5V$	--	1.5	--	mA
	$I_O$	$V_{DD}-V_O=12V$	--	5	--	mA
Input Voltage "H" Level	$V_{IH}$	High Level	$0.7V_{DD}$	--	$V_{DD}$	V
Input Voltage "L" Level	$V_{IL}$	Low Level	$V_{SS}$	--	$0.3V_{DD}$	V
Frame Frequency	$F_f$	$T_a = 25\text{ C}$	--	64	--	Hz
Viewing Angle	1 - 2	$T_a = 25\text{ C}$	--	--	80	Deg.
	1. 2	CR 1.5	-35	--	35	
LED Forward Voltage		$I=450mA$		4.2	4.6	V

**PIN ASSIGNMENT**

Pin	Symbol	Level	Function
1	$V_{SS}$	--	Ground (0V)
2	$V_{DD}$	--	+5V
3	$V_O$	--	Power Supply for LCD Drive
4	R/S	H/L	L Instructions H Data
5	R/W	H/L	H Data Read L Data Write
6	E	H, H/L	Enable Signal
7	DB0	H/L	Data Bus Line
8	DB1	H/L	
9	DB2	H/L	
10	DB3	H/L	
11	DB4	H/L	
12	DB5	H/L	
13	DB6	H/L	
14	DB7	H/L	
15	/CS	H/L	Chip Select ,Active LOW
16	/RST	L	Reset, Active LOW
17	$V_{EE}$	--	Negative Voltage Output (-10V)
18	NC	--	No Connection
19	NC	--	
20	NC	--	

**OUTLINE DIMENSION**

