

FEATURES

- F-STN monochrome LCD
- 320 x 240 Resolution
- CCFL Lifetime (40.000h typ.)

GENERAL CHARACTERISTICS

- Display Size : 13 cm (5,2")
- Dot Format : 320 x 240
- Dot Pitch : 0.33 x 0.33 mm
- Grayscale : 64 possible
- Weight : 230g

MECHANICAL CHARACTERISTICS

Parameter	Value	Unit
Module size	153 x 110 x 12.5	mm
Viewing area	112 x 85	mm
Active area	105.57 x 79.17	mm
Dot size	0.3 x 0.3	mm
Dot pitch	0.33 x 0.33	mm

ELECTRO-OPTICAL CHARACTERISTICS

Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply voltage logic	V _{DD}	4.5	5.0	5.5	V
Supply voltage LCD	V _{EE}		-24		V
Current dissipation logic	I _{DD}		4.3	12	mA
Current dissipation LCD	I _{EE}		3.1	10	mA
Contrast ratio	CR		25		-
Display Brightness	B		130		cd/m ²
Response time - Rise	t _{RISE}		200	260	ms
Response time - Fall	t _{FALL}		150	200	ms
Frame frequency	f		70		Hz
Storage temperature	T _{ST}	-20		+60	°C
Operating temperature	T _{OP}	0		+60	°C
Display lifetime (w.o. lamp)			50.000		h

BACKLIGHT CHARACTERISTICS

Parameter	Symbol	Value	Unit
Lamp voltage	VL	365	Vrms
Lamp current	IL	5	mA
Lamp frequency	fL	30	kHz
Lamp halfbrightness time		25.000	h
Number of tubes		1	pcs
Connector type	JAE	4 pin	

HIGH GRADE TECHNOLOGY

- Wide operating temp. range (0...60°C)
- High contrast (CR = 25:1)
- High Brightness (130cd/m² typ.)

LCD INTERFACE CABLE

(FFC cable 14 pin)

Pin	Signal	Description
1	D0	Data 0
2	D1	Data 1
3	D2	Data 2
4	D3	Data 3
5	FRMB/NC	AC Driving Signal / Not connected Jumper J2
6	LIP	Latch Pulse
7	CLP	Shift Clock
8	FRP	Frame Signal
9	DOFF	Display Off (On=High, Off=Low) Jumper J4
10	GND	Ground (0 V)
11	V _{DD}	V _{DD} (+5V)
12	V _{EE}	Negative supply voltage
13	Vo	Contrast adjustment Voltage
14	FG	Frame Ground

VERSIONS

Transmissive : No minimum Quantity
 Transflective : Minimum Quantity 500 pcs.
 Reflective : Minimum Quantity 500 pcs.
 12 o Clock V.A. : Minimum Quantity 500 pcs.

AVAILABLE ACCESSORIES

- FFC connector 14pin (90° or 180° Type)
- CCFL Connector (90° / 180° PCB Type)
- CCFL Inverter 8m or CXA K series
- Controller board : VAMPOWER 1 or 2
- IF 110 Interface board series

