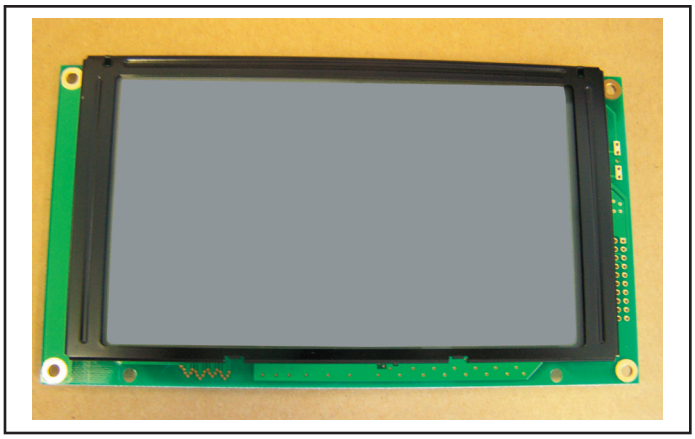


AND1743MST-LED
Intelligent Character Display

The AND1743MST-LED is a FSTN Positive Black & White liquid crystal display. It has a transflective rear polarizer, white LED backlight, 6 o-clock viewing angle and a normal / wide temperature range.

Features

- FSTN Positive Black & White
- Transfl ective Rear Polarizer
- White LED Backlight
- 6 O'clock Viewing Direction
- Wide Temperature Range
- Black Frame
- **ROHS Compliant**

Mechanical Characteristics

Item	Standard Value	Unit
Module Size	170.0 (W) x 95.0 (H) x 14.0 (D) (max.)	mm
Viewing Area	132.0 (W) x 76.0 (H)	mm
Dot Size	0.47 (W) x 0.47 (H)	mm
Dot Pitch	0.50 (W) x 0.50 (H)	mm
Resolution	240 (W) x 128 (H)	dots
Duty Ratio	1/128 Duty	–
Controller	T6963C/Toshiba	–
DC/DC Converter	Without	–

Electrical Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit	Remark
Power Supply for Logic	VDD - VSS	-0.3	7.0	V	
Power Supply for LCD	VDD-VSS	0	24.0	V	
Input Voltage	V1	-0.3	VDD	V	
LED Power Dissipation	PAD	–	720	mW	
LED Frward Current	IAF	–	200	mA	
LED Reverse Voltage	VR		5	V	

Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Power Supply for Logic	VDD-VSS	–	4.5	5.0	5.5	V
Input Voltage	VIL	L Level	0	–	0.6	V
	VH	H Level	2.2	–	VDD	V
	VDD-VO Bias - 1/12	Ta = -20ºC	–	–	–	V
		Ta = 25ºC	15.8	16.3	16.8	V
		Ta = 70ºC	–	–	–	V
LED Forward Voltage	VF	If=160 mA	–	3.4	3.6	V
LED Forward Current	IF	–	–	160	–	mA
LED Reverse Current	IR	VR=5V	–	–	0.3	mA

Optical Specifications (Ta = 25 ºC)

Item	Symbol	Remarks	Specifications Min.	Typ.	Max.	Units
Viewing Angle	Φ f (12 o'clock)	When CR ≥ 2	–	41	–	deg
	Φ b (6 o'clock)		–	34	–	
	Φ l (9 o'clock)		–	35	–	
	Φ r (3 o'clock)		–	30	–	
Rise Time	Tr	VDD-VO = 16.3 V Ta = 25ºC	–	140	–	mS
Fall Time	Tf		–	240	–	
Frame Frequency	Frm		–	64	–	Hz
Congrast	Cr		–	5.0	–	–
Brightness of Backlight	L	IF = 160 mA	160	200	–	cd/m^2
Peak Emission Wavelength	λ P		–	x = 0.31 y = 0.32	–	nm

Environmental Absolute Maximum Ratings

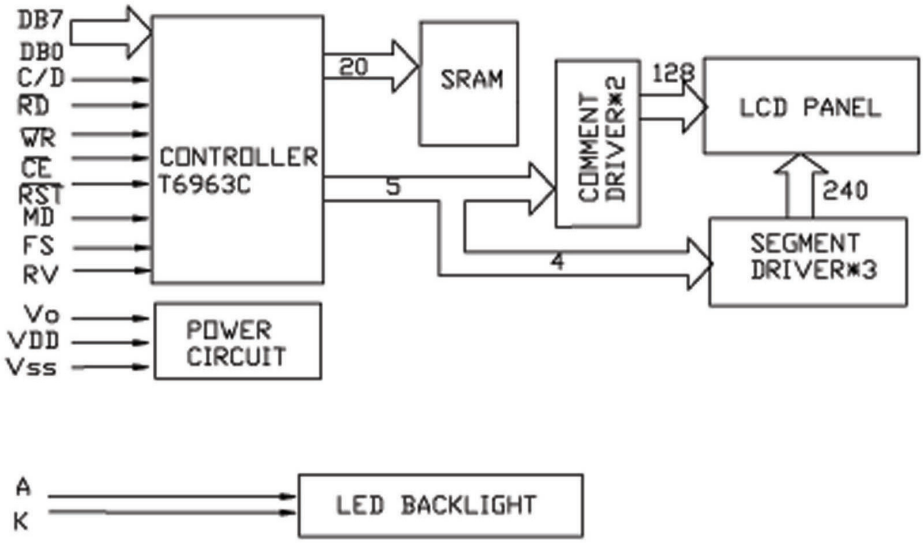
Item	Wide Temperature			
	Operating		Storage	
	Min.	Max.	Min.	Max.
Ambient Temperature	-20 ºC	+70 ºC	-30 ºC	+80ºC
Humidity (without condensation)	Note 4, 5		Note 4,6	

Note 4: Background color changes slightly depending on ambient temperature. This phenomenon is reversible.
Note 5: Ta ≤ 70ºC: 75 RH max; Ta > 70ºC: absolute humidity must be lower than the humidity of 75% RH at 70ºC.
Note 6: Ta at -30ºC will be <48 hrs, at 80ºC will be < 120 hrs when humidity is higher than 75%.

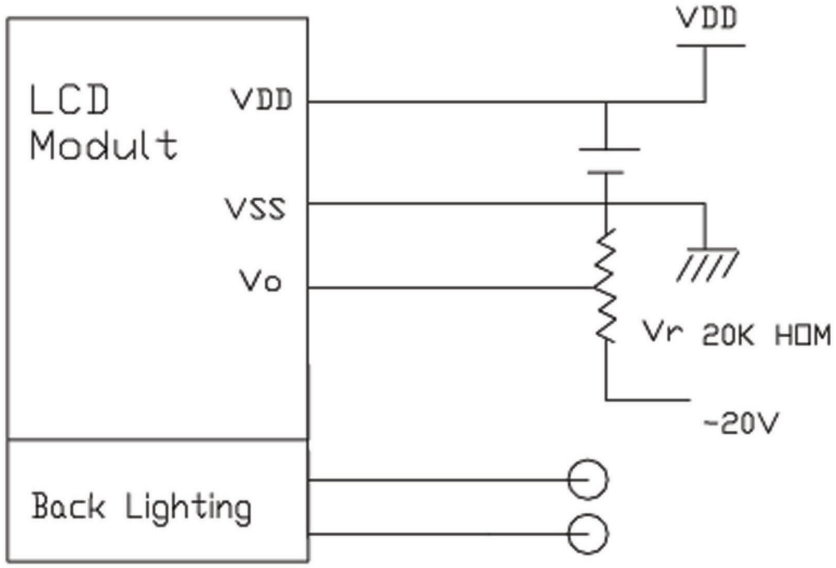
Interface Pin Assignment

Pin No.	Pin Out	Level	Function Description		Pin No	Pin Out	Level	Function Description
1	FGND	–	Frame Ground		11	DB0	H/L	Data Bit 0
2	VSS	0V	Power Supply Ground		12	DB1	H/L	Data Bit 1
3	VDD	5V	Power Supply Voltage		13	DB2	H/L	Data Bit 2
4	VO	–	Contrast Adjustment Voltage		14	DB3	H/L	Data Bit 3
5	/WR	L	Data Write		15	DB4	H/L	Data Bit 4
6	/RD	L	Data Read		16	DB5	H/L	Data Bit 5
7	/CE	L	Enable Signal		17	DB6	H/L	Data Bit 6
8	C/D	H/L	Wr = "I", C/D = "H": Command Write; WR = "L", C/D = "L.": Data Write; RD = "L", C/D = "H": Status Read; RD = "L", C/D = "L": Data Read		18	DB7	H/L	Data Bit 7
9	NC	–	No Connection		19	FS	H/L	H: 6*8/L: 8*8 Select of font
10	/RST	L	Reset Signal		20	RV	–	Revserse Data IN

Block Diagram



Power Supply



Mechanical Dimensions