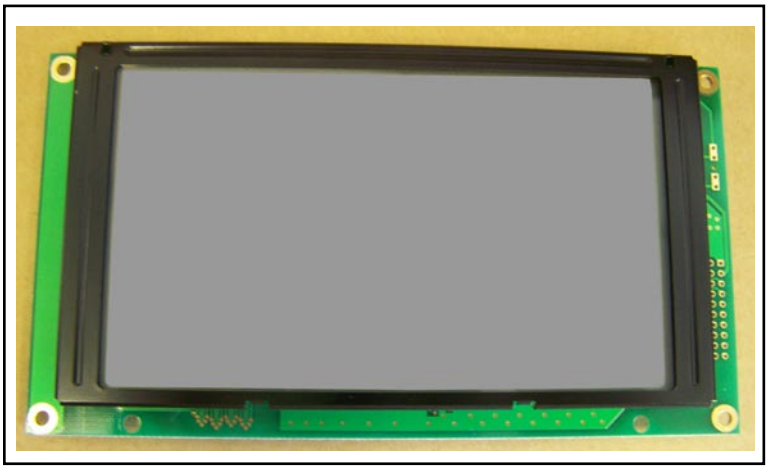


AND1743BST-LED

Intelligent Character Display

The AND1743BST-LED is an STN, Transmissive, Negative, Wide Temperature range liquid crystal display. It has a rear polarizer, white LED backlight, 6 o-clock viewing direction and black frame

Features

- STN Blue Negative, Transmissive
- 240 x 128 Dot
- White LED Backlight
- 6 O'clock Viewing Direction
- Wide Temperature Range
- LCD Module 1/128 Duty
- **ROHS Compliant**

Mechanical Characteristics

Item	Standard Value	Unit
Resolution	240 (W) x 128 (H)	dots
Outline Dimensions	170.0 (W) * 95.0 (H) * 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
LCD Type	STN, Negative, Transmissive	
Duty	1/128	
Controller	T6963C / Toshiba	
DC/DC Converter	Without	

.

Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit
Operating Temperature	TOP	-20	70	ºC
Storage Temperature	TST	-30	+80	ºC
Input Voltage	V1	VSS	VDD	V
Supply Voltage	VDD-VSS	-0.3	+7	V
Supply Voltage for LCD	VDD-V0	0	15	V

Electrical Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit
Power Supply for Logic	VDD-VSS	-0.3	7.0	Volt
Power Supply for LCD	VDD-VEE	0	24.0	Volt
Input Voltage	V1	-0.3	VDD	Volt
LED Power Dissipation	PAD	—	1140	mW
LED Forward Current	IAF	—	300	mA
LED Reverse Voltage	VR		8	V

Product specifications contained herein may be changed without prior notice. It is therefore advisable to contact Purdy Electronics before proceeding with the design of equipment incorporating this product.

Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Power Supply for Logic	VDD-VSS	–	4.5	5.0	5.5	V
LCM Recommend LCD Module Driving Voltage	VIL	L Level	0	—	0.6	V
	VIH	H Level	2.2	—	VDD	V
	VDD-V0 Bias=1/12	Ta = -20ºC	—	—	—	V
		Ta = 25ºC	16.7	17.8	18.5	V
		Ta = +70ºC	—	—	—	V
Power Supply Current for LCM	IDD	VDD=5V VDD-VEE=17.8V	—	15.6	18	mA
	IEE		—	24	—	
LED Forward Voltage	VF	—	—	5.0	—	V
LED Forward Current	IF	Vf=5V	180	200	240	mA
LED Reverse Current	IR	VR=8V	—	—	0.3	mA

Optical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Degree
Viewing Angle Range	ϕ f (12 o'clock)	When Cr ≥ 2	—	41	—	degree
	ϕ b (6 o'clock)		—	34	—	
	ϕ l (9 o'clock)		—	35	—	
	ϕ r (3 o'clock)		—	30	—	
Rise Time	Tr	VDD-VO=17.8 V Ta=25ºC	—	140	—	mS
Fall Time	Tf		—	240	—	
Frame Frequency	Frm		—	64	—	Hz
Contrast	Cr		—	5	—	
Brightness of Backlight	L	VF=5.0V	650	750	—	cd/m^2
Peak Emission Wavelength	λ P		X-0.28, Y=0.29	X=0.31, Y=0.32	X=0.34, Y=0.35	nm

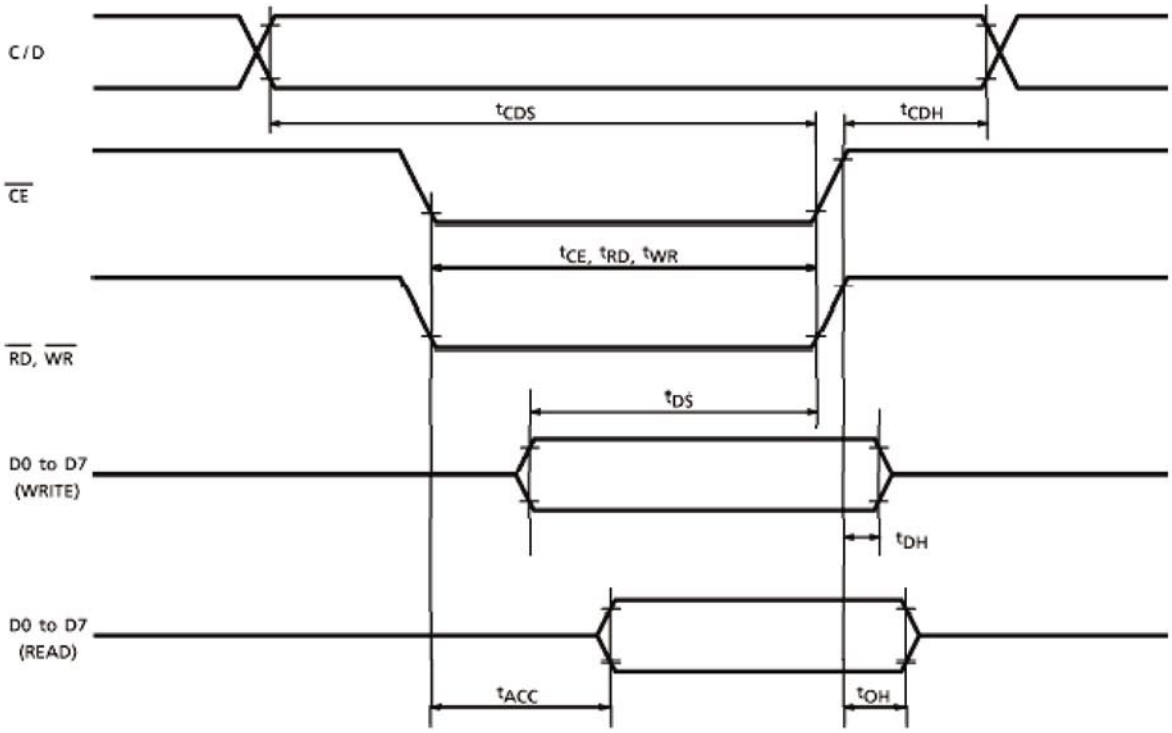
Environmental Absolute Maximum Ratings - Wide Temperature

Item	Operating		Storage	
	Min.	Max.	Min.	Max.
Ambient Temperature	-20 ºC	+70 ºC	-30 ºC	+80 ºC
Humidity (without condensation)	Note1,2		Note 1,3	

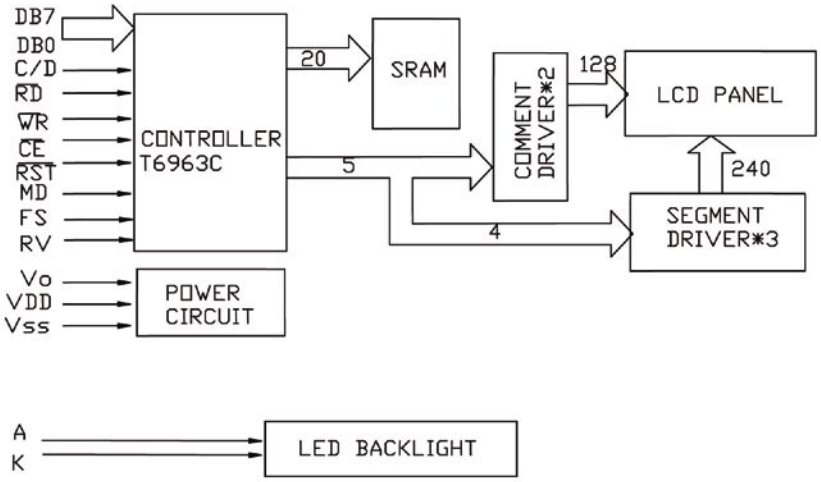
Note 1: Background color changes slightly depending on ambient temperature. This phenomenom is reversible.
Note 2: Ta ≤ 70ºC: 75 RH max; Ta > 70 ºC: absolute humidity must be lower than the humidity of 75% RH at 70ºC
Note 3: Ta at -30ºC will be <48 hrs, at 80ºC will be <120 hrs when humidity is higher than 75%.

AC Characteristics - Bus Timing (Vss=0V, VDD=5V)

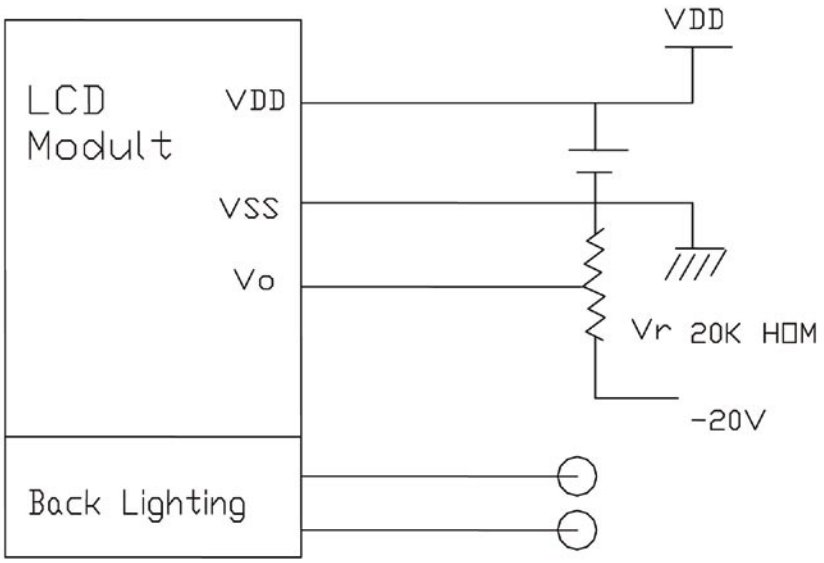
Item	Symbol	Min.	Typ.	Max.	Unit
C/D Set-up Time	tCDS	100	—	—	ns
C/D Hold Time	tCDH	10	—	—	ns
CE, RD, WR Pulse Width	tCDS, tRD, tWR	80	—	—	ns
Data Set-Up Time	tDS	80	—	—	ns
Data Hold Time	tDH	40	—	—	ns
Access Time	tACC	—	—	150	ns
Output Hold Time	tOH	10	—	50	ns



Block Diagram



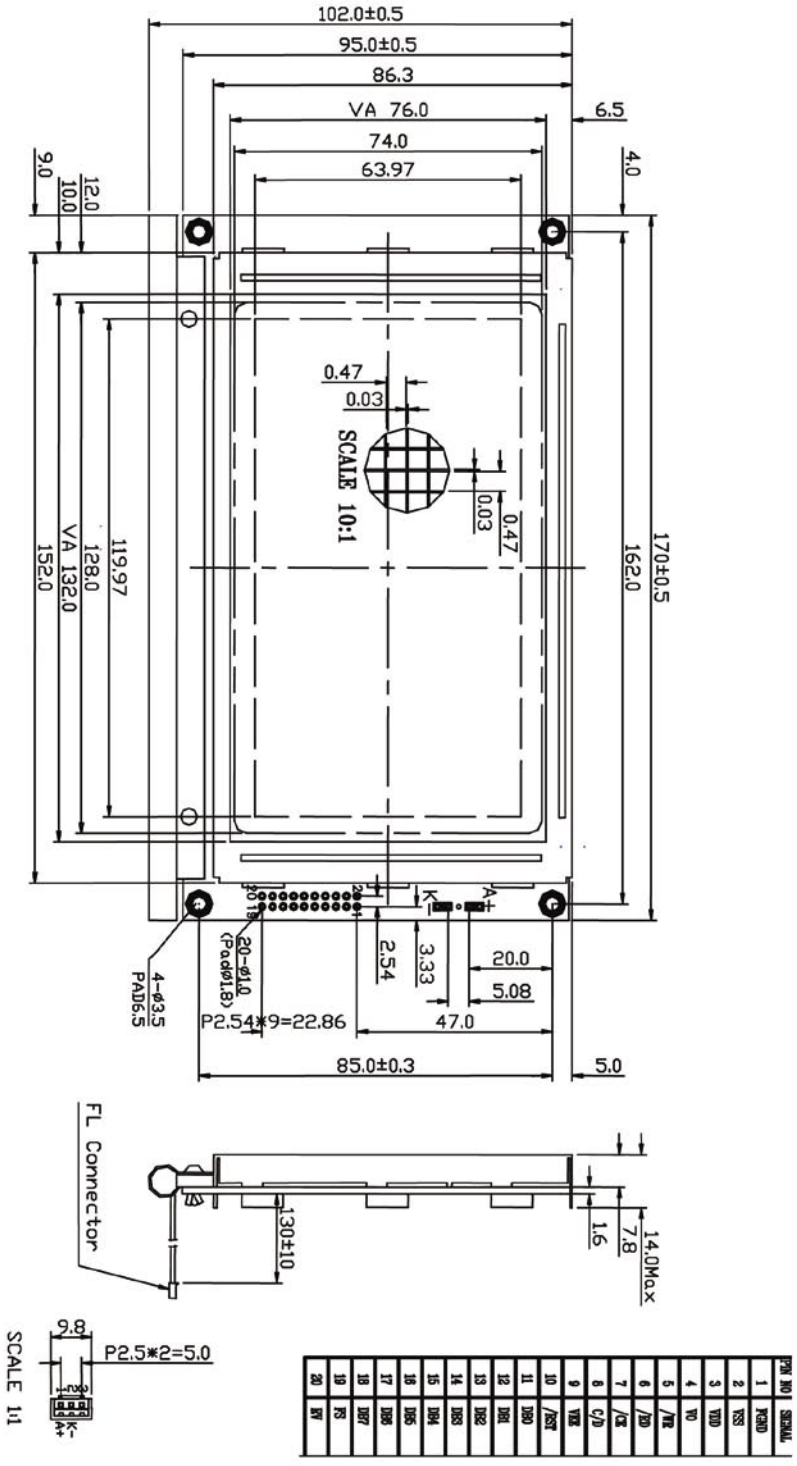
Power Supply



Interface Pin Assignment

Pin No.	Pin Out	Function Description	Level		Pin No	Pin Out	Function Description	Level
1	FGND	Frame Ground	—		11	DB0	Data Bit 0	H/L
2	VSS	Power Supply Ground	0V		12	DB1	Data Bit 1	H/L
3	VDD	Power Supply Voltage	5V		13	DB2	Data Bit 2	H/L
4	V0	Contrast Adjustment Voltage	—		14	DB3	Data Bit 3	H/L
5	/WR	Write Signal	L		15	DB4	Data Bit 4	H/L
6	/RD	Read Signal	L		16	DB5	Data Bit 5	H/L
7	/CE	Enable Signal	L		17	DB6	Data Bit 6	H/L
8	C/D	Wr = “l”, 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	H/L		18	DB7	Data Bit 7	H/L
9	NC	No Connection	—		19	FS	H: 6*8, L: 8*8 Select of Font	H/L
10	/RST	Reset Signal	L		20	RV	Display Data reverse: RV=”H”: Reverse display, RV=”L”: Normal display	H/L

Mechanical Drawing



CG-Rom Character Code Map

Display Pattern