

## AND501WGST/WGST-LED

### 20 Characters x 2 Lines

### Intelligent Alphanumeric Displays

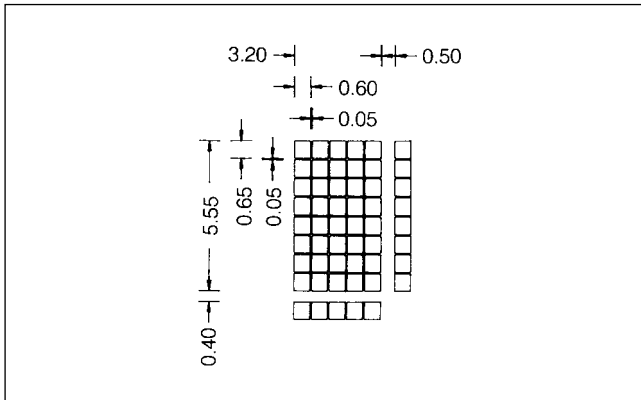
The AND501WGST/WGST-LED devices are compact, LCD modules that have an on-board LCD controller and driver circuit and wide operating temperature STN fluid. These devices can display 160 characters (numerals, letters, symbols and Kana letters).

#### Features

• RoHS Compliant

- AND501WGST: Wide Temp. Super Twist Technology
- AND501WGST-LED: WTSTN with LED backlight
- Low voltage,  $\pm 5V$  power supply
- Controller on board (HD44780)
- RoHS compliant
- 11 commands for control

#### Dot Matrix Dimensions



#### Mechanical Characteristics

Item	Specification	Unit
Outline Dimensions	116 (W) x 37 (H) x 11 (D)	mm
Character Size	3.2 (W) x 5.55 (H)	mm
Viewing Area	83.0 (W) x 18.6 (H)	mm
Dot Size	0.60 (W) x 0.65 (H)	mm
Dot Pitch	0.65 (W) x 0.70 (H)	mm

#### Absolute Maximum Ratings

Item	Symbol	Rating	Unit
Supply Voltage	$V_{DD}$	7.0	V
Input Voltage	$V_{IN}$	$0 \leq V_{IN} \leq V_{DD}$	V
LED Forward Current	$I_F$	275	mA
LED Reverse Voltage	$V_R$	8	V
LED Power Dissipation	$P_D$	1270	mW

#### Absolute Maximum Ratings (Continued)

Item	Symbol	Rating	Unit
Operating Temperature	$T_{op}$	-20 to +70	$^{\circ}C$
Storage Temperature	$T_{stg}$	-30 to +80	$^{\circ}C$

#### Electrical Characteristics (TA = 25°C)

Item	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	$V_{DD}$	4.75	5.0	5.25	V
	GND	—	0	—	
High Level In Voltage ( $V_{DD} = 5.0V$ )	$V_{IH}$	2.2	—	—	V
Low Level In Voltage ( $I_{OH} = 0.2 mA$ )	$V_{IL}$	0	—	0.6	V
High Level Output Volt. ( $-I_{OH} = 0.2 mA$ )	$V_{OH}$	2.4	—	—	V
Low Level Output Volt. ( $I_{OL} = 1.2 mA$ )	$V_{OL}$	—	—	0.6	V
LED Forward Voltage ( $I_F = 200 mA$ )	$V_F$	3.8	4.1	4.4	V
LED Reverse Current ( $V_R = 8 V$ )	$I_R$	—	—	2.2	mA

#### Optical Characteristics (TA = 25°C, $\phi = 0^{\circ}C$ , $\theta = 0$ )

Item	Symbol	Min.	Typ.	Max.	Unit
Viewing Angle	$\phi$	-10	25	40	degree
Contrast	K	—	3.0	—	—
Turn On	$T_{on}$	—	200	400	ms
Turn Off	$T_{off}$	—	250	400	ms

#### Connector Pin Assignment

Pin No.	Signal	Function
1	GND	Ground
2	$V_{DD}$	+5 Power Supply
3	$V_O$	LCD Drive Voltage

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.

### Connector Pin Assignment (Continued)

Pin No.	Signal	Function
4	RS	"H" Data Input "L" Command Input
5	R/W	Read/Write
6	E	Enable
7	DB0	Data Bus DB0-DB7 are for 8-bit operation DB4-DB7 are for 4-bit operation
8	DB1	
9	DB2	
10	DB3	
11	DB4	
12	DB5	
13	DB6	
14	DB7	

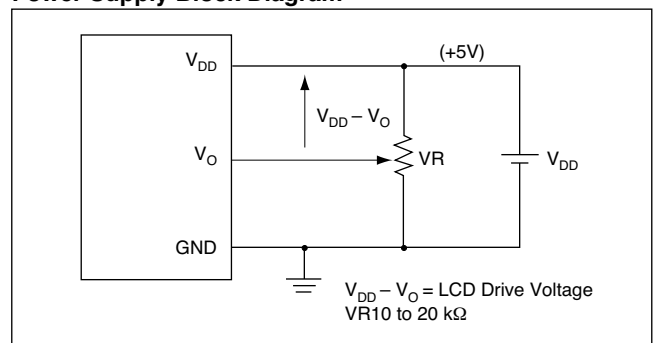
### Power Supply

The LCD panel is driven by the voltage  $V_{DD}-V_O$ , so adjustable  $V_O$  is required for contrast control and temperature compensation.

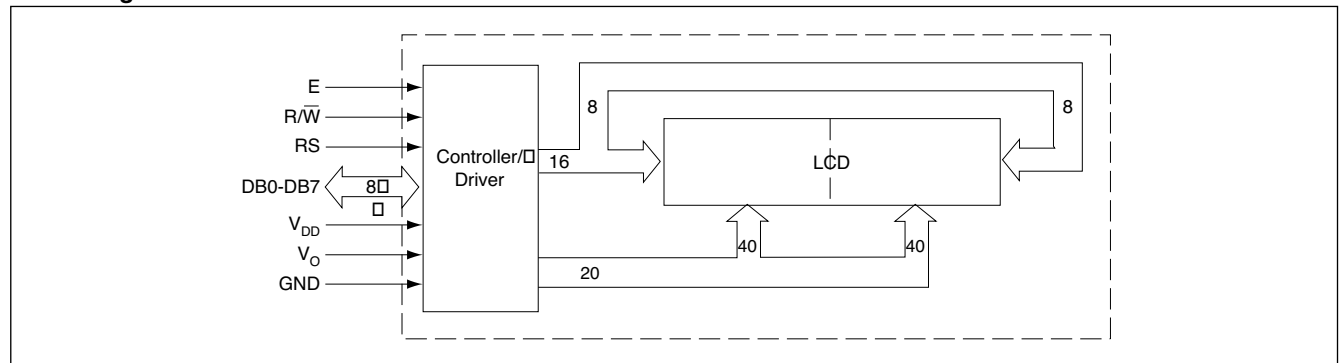
### Temperature Variations

Temperature	$V_{DD}-V_{EE}$
-20°C	6.20
+25°C	5.60
+70°C	5.20

### Power Supply Block Diagram



### Block Diagram



### Dimensional Outline

