



AND471GST/GST-LED

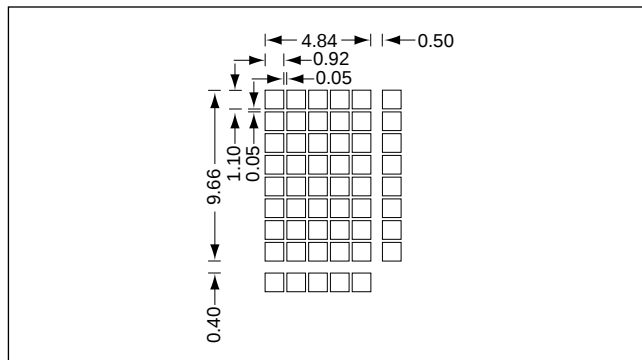
2 Lines x 16 Characters Intelligent Character Display

The AND471GST/GST-LED devices are compact, LCD modules that have an on-board LCD controller and driver circuit. These devices can display 160 characters (numerals, letters, symbols and Kana letters), as well as eight custom characters. The large characters provide excellent readability.

Features

- AND471GST: Super Twist Technology
- AND471GST-LED: STN with LED backlight
- Low voltage, +5V single power supply
- Controller on board (HD44780)
- Direct interface to 4- or 8-bit CPU
- Wide temperature range option (WGST)

Dot Matrix Dimensions



Mechanical Characteristics

Item	Specification	Unit
Outline Dimensions	122 (W) x 44 (H) x 11 (D)	mm
Character size	4.84 (W) x 9.66 (H)	mm
Viewing Area	99.0 (W) x 24.0 (H)	mm
Dot Size	0.92 (W) x 1.10 (H)	mm
Dot Pitch	0.98 (W) x 1.16 (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	480	mA

Absolute Maximum Ratings (Continued)

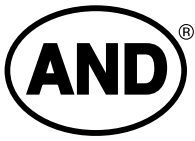
Item	Symbol	Rating	Unit
LED Reverse Voltage	V_R	8	V
LED Power Dissipation	P_D	2000	mW
Operating Temperature	T_{op}	0 to +50	°C
Storage Temperature	T_{stg}	-20 to +60	°C

Electrical Characteristics (TA = 25°C)

Item	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	V_{DD}	4.75	5.0	5.25	V
	$V_{DD}-V_O$	3.0	—	6.3	
High Level In Voltage (V _{DD} = 5.0V)	V_{IH}	2.2	—	—	V
Low Level In Voltage (I _{OH} = 0.2 mA)	V_{IL}	—	—	0.6	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}	—	—	0.4	V
LED Forward Voltage (I _F = 220)	V_F	3.8	4.1	4.4	V
LED Reverse Current (V _R = 8 V)	I_R	—	—	2.4	mA

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

Item	Symbol	Min.	Typ.	Max.	Unit
Viewing Angle	ϕ	—	50	—	degree
Contrast	K	—	6.0	—	—
Turn On	T_{on}	—	200	400	ms
Turn Off	T_{off}	—	250	400	ms



AND471GST/GST-LED Intelligent Character Display

Connector Pin Assignment

Pin No.	Signal	Function
1	GND	Ground
2	V _{DD}	+5 Power Supply
3	V _O	LCD Drive Voltage
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	

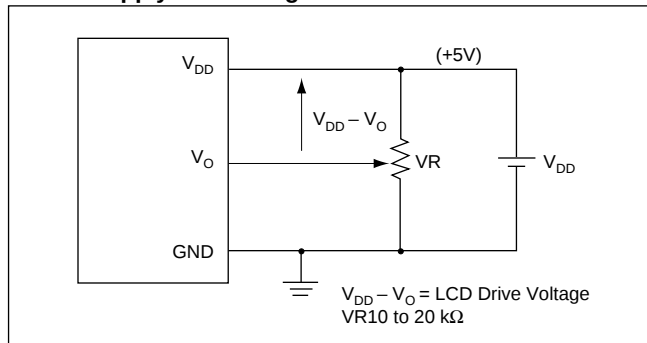
Power Supply

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

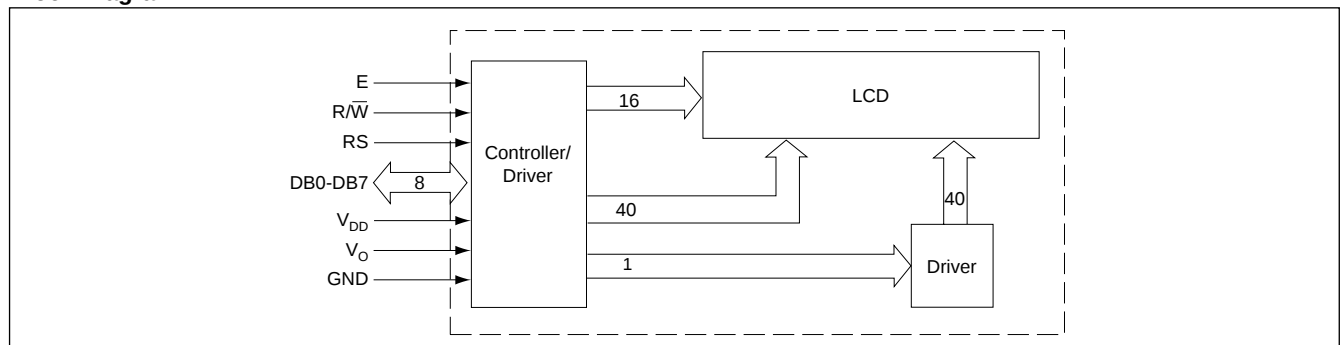
Temperature Variations

Temperature	V _{DD} -V _O
0°C	5.00
+25°C	4.75
+50°C	4.50

Power Supply Block Diagram



Block Diagram



Dimensional Outline

