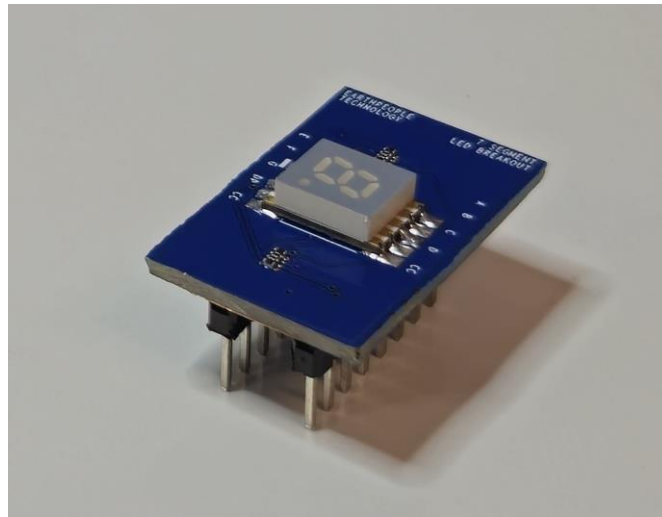




Seven Segment LED Board Data Sheet

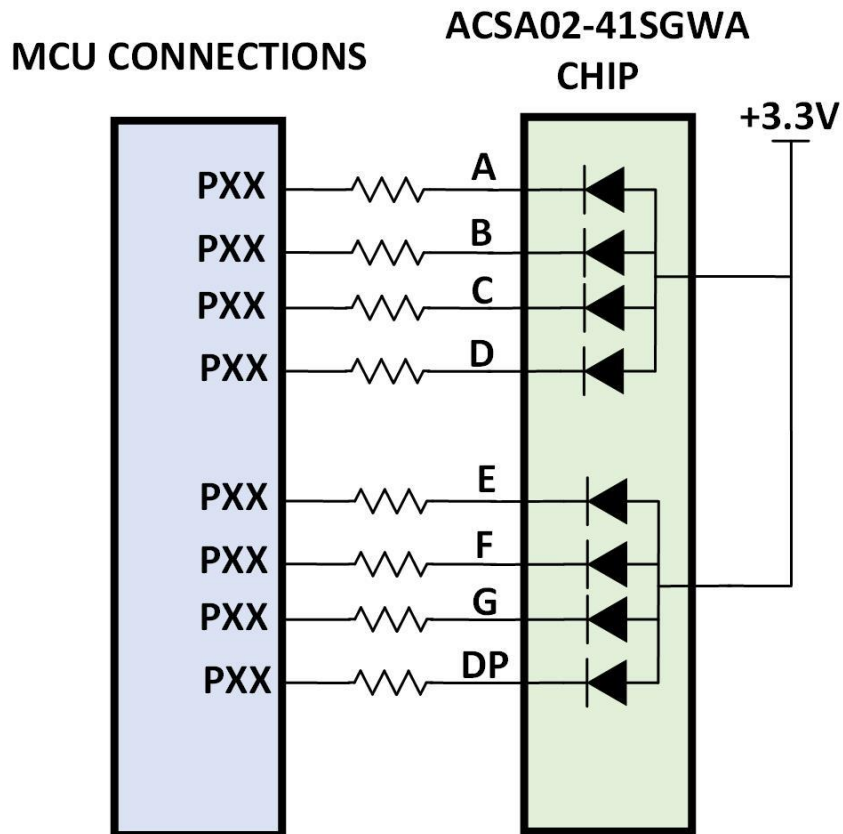


The EPT-ACSA02-LD-X2 is a breakout board that includes one Seven Segment LED. This Board provides a simple interface to control each segment of the LED Display for a total of 8 LEDs from any MCU (including the Arduino family). It is designed to connect directly to the standard bread board with a reduced footprint. Once connected to an MCU, the MCU can provide a sink for each LED.

The Seven Segment LED board uses one ACSA02-41SGWA-F01 manufactured by Kingbright. The Display is 0.2 inch digit height. It has low current operation and excellent character appearance. The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

Seven Segment LED Breakout Board

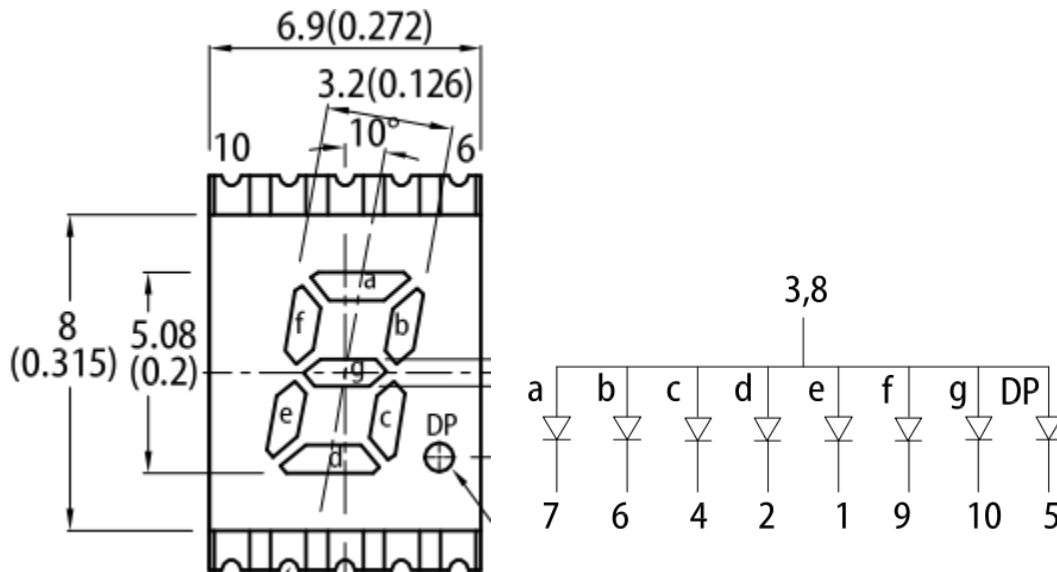
This Breakout board is compatible with both +3.3V and +5V Arduinos. However, the LED RGB Breakout board is for use only with +3.3V.



The ACSA02-41SGWA-F01 Display is a current sink and can be connected to any MCU. The anode should be connected to +3.3V. The reason for this is the Series resistors are calculated for current limiting based on +3.3V. Changing the anode voltage to another source will change the brightness emitting from each LED. Because the ACSA02-41SGWA-F01 Display LEDs are current sink, the user can connect to either +5V or +3.3V Arduino (or other MCUs) and control each LED.



Seven Segment LED Board



Hardware Features:

- Stand Alone Bread Board Compatible
- Seven Independently controlled LEDs
- Designed for +3.3V Control, Each LED has a pre-selected Current Resistor
- Each LED is sink controlled from any MCU including Arduinos
- Each LED connected to SMT pin on bottom of Board

LED Electrical Specifications

Each LED current limiting resistor is calculated to provide 5mA in each of the Segment LEDs. So, the current for each leg:

Parameter	Symbol	Emitting Color	Value	Unit
Peak Wavelength	λ_{peak}	Super Bright Green	565	nm

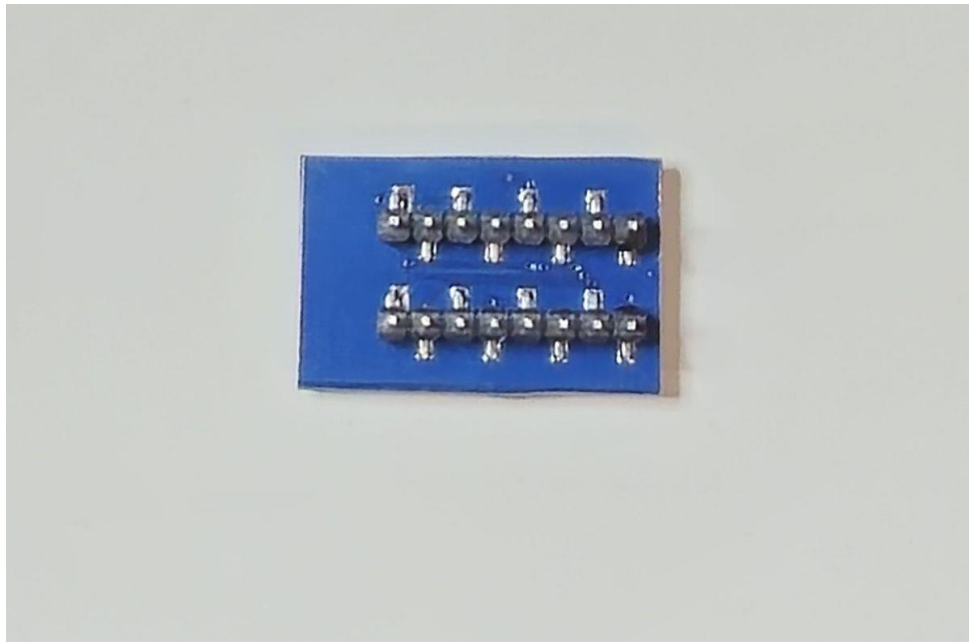


Seven Segment LED Board

Dominant Wavelength IF = 10mA	λ_{dom}	Super Bright Green	568	nm
Spectral Bandwidth at 50% Φ REL MAX	$\Delta\lambda$	Super Bright Green	30	nm
Forward Voltage IF = 10mA	V_F	Super Bright Green	2.0	V
Reverse Current (VR = 5V)	I_R	Super Bright Green	10	μA

Pin Out Description

The LED Breakout Board has 16 pins located on the bottom of the board. These are two 8x1 0.1 inch headers. These headers are SMT. The headers are located to allow the breakout board to connect to a typical solderless breadboard. Because of the use of SMT headers on the bottom of the board, the entire real estate of the top of the board is open for SMT part location and traces unobstructed by through hole parts.

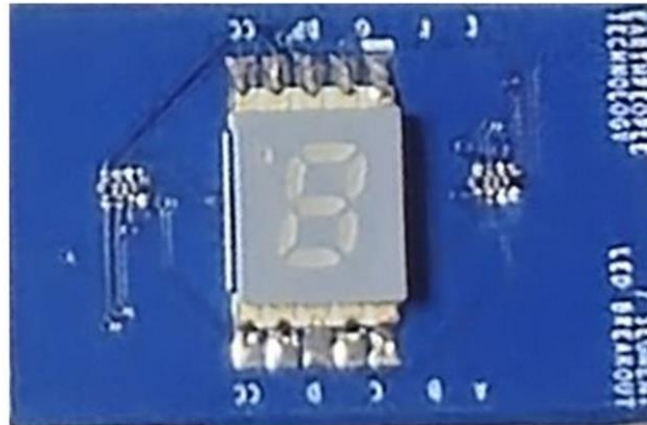




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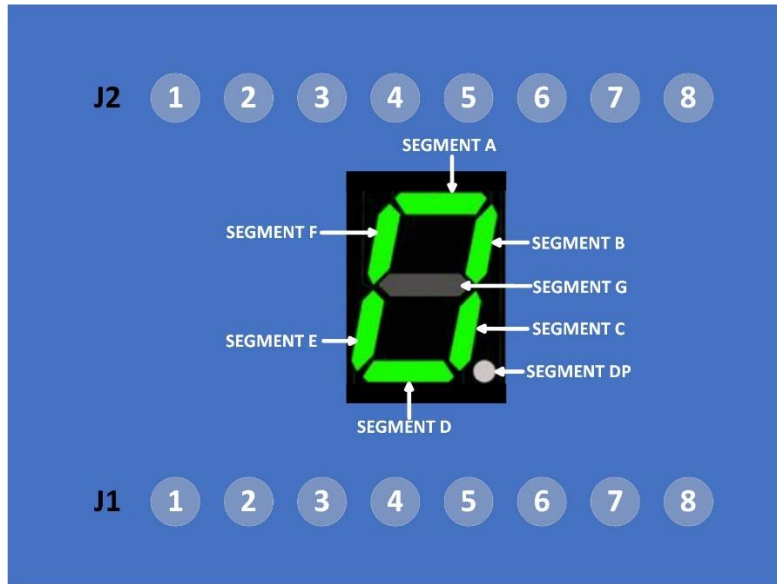
Seven Segment LED Board



The top down view is shown below. The Display is arranged as eight separate LEDs. The connectors are shown as looking through the board.



Seven Segment LED Board



Connector	Pin #	Signal		
J1	1	SEGMENT_A		
	2	SEGMENT_B		
	3	SEGMENT_C		
	4	SEGMENT_D		
	5	+3.3V		
	6	NC		
	7	NC		



Seven Segment LED Board

	8	Ground		
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Connector	Pin #	Signal		
J2	1	SEGMENT_E		
	2	SEGMENT_F		
	3	SEGMENT_G		
	4	SEGMENT_DP		
	5	+3.3V		
	6	NC		
	7	NC		
	8	Ground		