

ARDUINO 3 DIGIT 0.5 INCH 7 SEGMENT DISPLAY MODULE

This project will help you to easily develop an Arduino compatible project that requires 3 x 7-Segment 0.5" displays. These are common cathode displays that use multiplexed configuration, BC847 transistor drives 3 x common cathodes, all display segments are connected to the microcontroller using current limiting resistors. The circuit operates with 5V DC, Connector CN1 is provided for bootloader and Arduino firmware upload. Upload Arduino code to test the board. The user will be able to create a 5.00V Voltage Meter. Use analog pin A0 for voltage input, Connector U2.

A new Atmega328 chip requires a bootloader and Arduino firmware upload. Connector CN1 is provided for both operations, follow the link below to learn more about programming the board using Arduino.

<https://www.arduino.cc/en/Tutorial/BuiltInExamples/ArduinoToBreadboard>

Arduino Compatible Hardware Contains

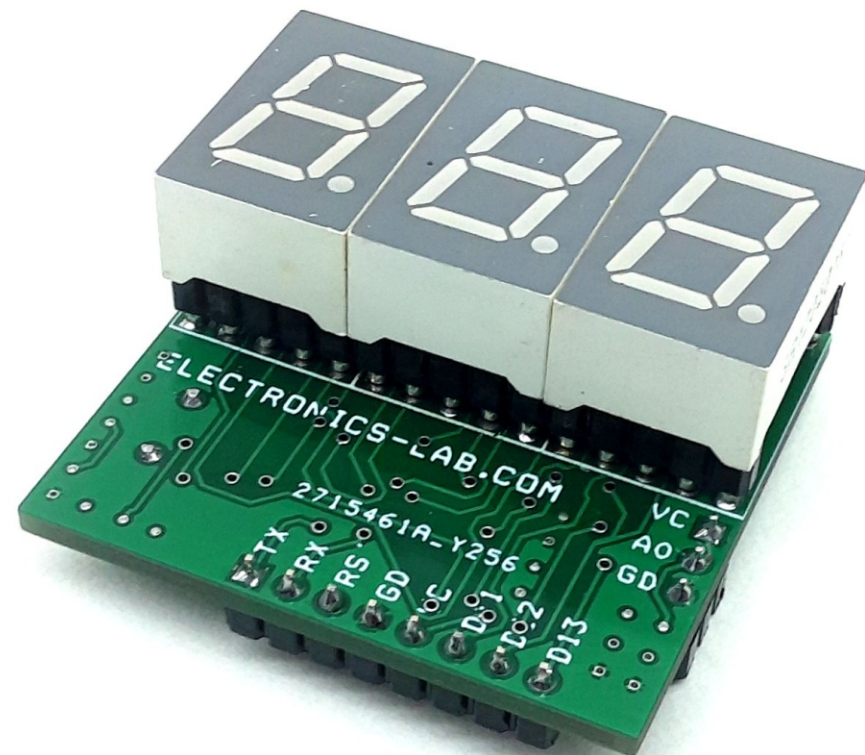
- Atmega328 Micro-controller
- 3 Digit 0.5 Inch 7 Segment Display, Common Cathode
- 3 X BC847 Transistors to drive Display Common Cathode for Multiplexing
- CN1: Arduino Programming and Boot-Loader
- U2: 3 Pin Connector to Connect LM35 Temperature Sensor or Analog Input
- Current Limiting Resistors for 7 segment display and other components

Application

- 3 Digit Counter
- 3 Digit Timer
- 3 Digit Thermometer
- Voltmeter
- Current Meter
- Sensor Value Display
- 3 Digit Score Board
- Dice

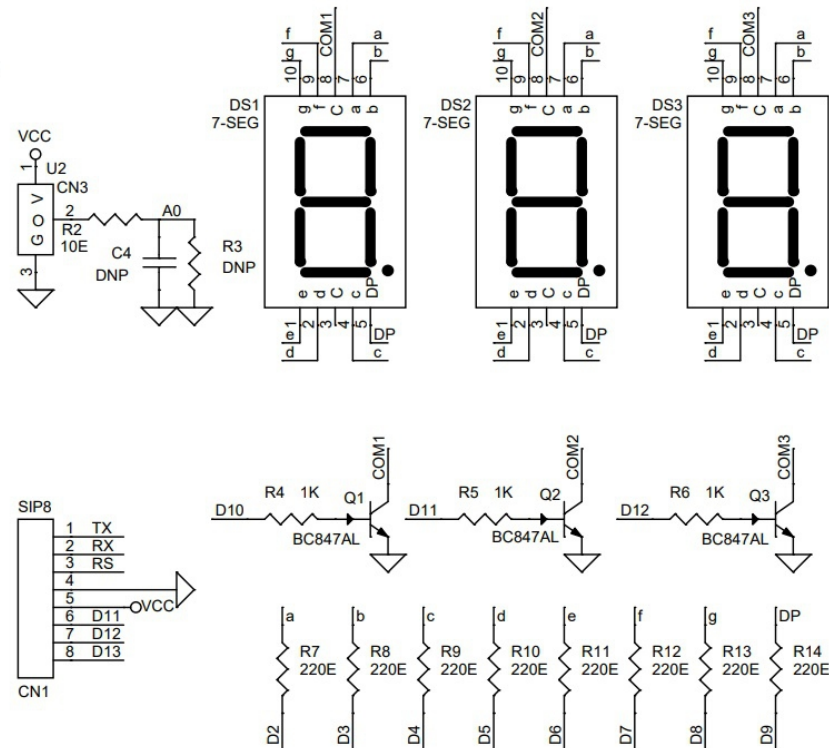
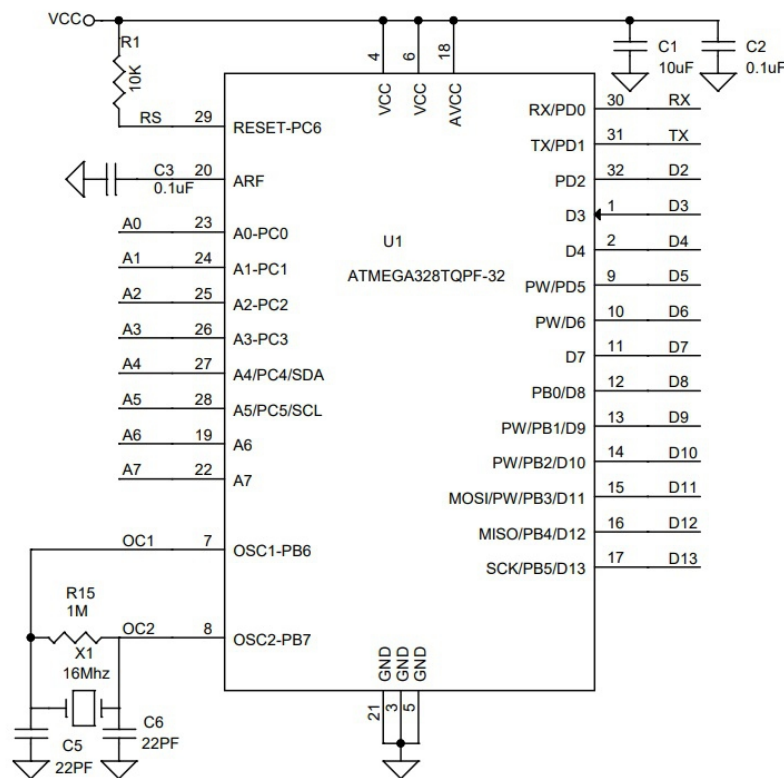
Features

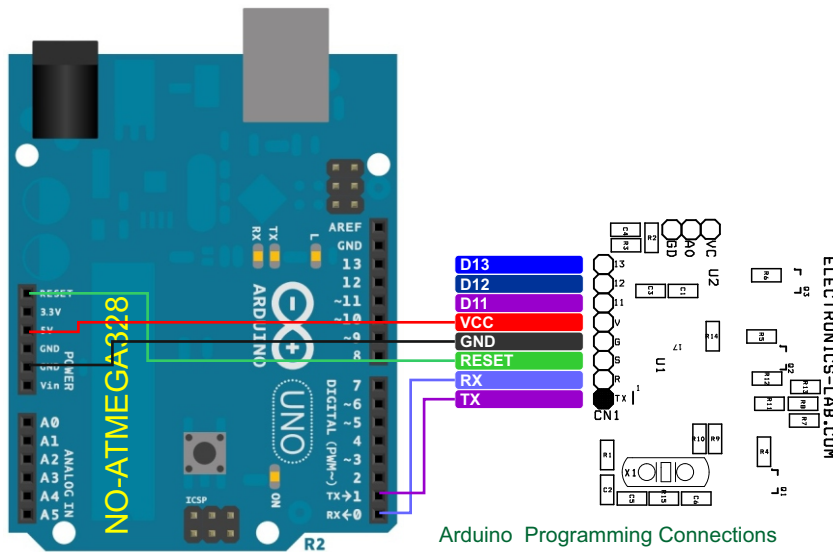
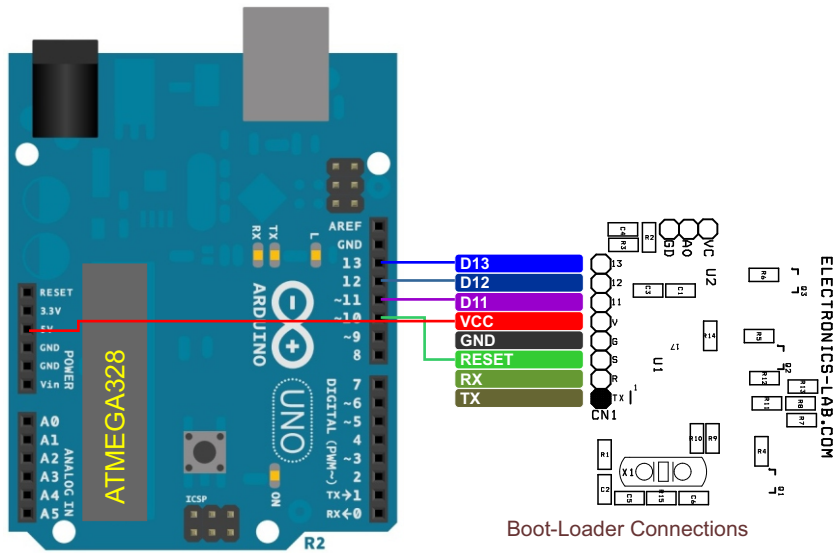
- Supply 5V DC, can be optimized for 3.3V Operations
- LM35 Temperature Sensor or Analog Input A0
- Compact Hardware
- PCB Dimensions 38.42 x 35.40M mm

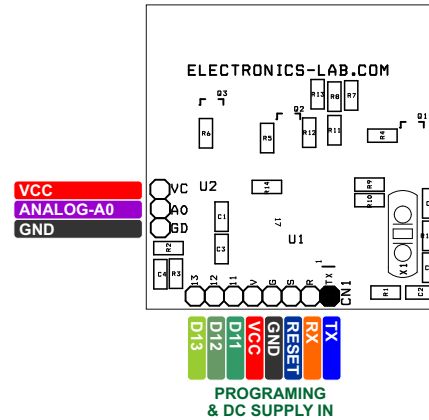


Arduino Pins

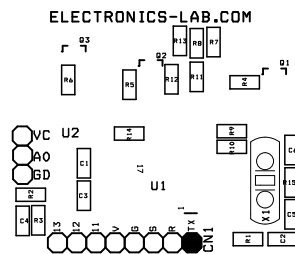
- Digital Pin D10 Display 1 Common Cathode
- Digital Pin D11 Display 2 Common Cathode
- Digital Pin D12 Display 3 Common Cathode
- Digital Pin D2 Display Segment A
- Digital Pin D3 Display Segment B
- Digital Pin D4 Display Segment C
- Digital Pin D5 Display Segment D
- Digital Pin D6 Display Segment E
- Digital Pin D7 Display Segment F
- Digital Pin D8 Display Segment G
- Digital Pin D9 Display Segment DP
- Digital Inputs D13, D12, D11, TX, RX (Available for Inputs after programming)
- Analog A0 for Analog Signal Input from Sensor or Analog Source
- Programming and Boot-loader Pin D13, D12, D11, TX, RX, RESET



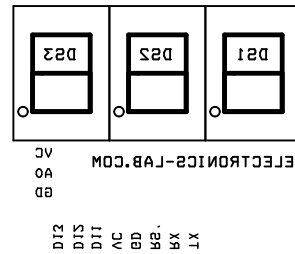




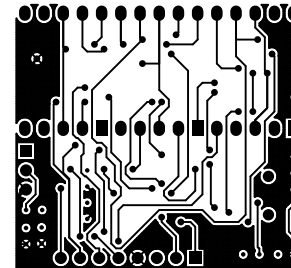
BOM						
NO	QNTY.	REF	DESC	MANUFACTURER	SUPPLIER	SUPPLIER PART NO
1	1	CN1	8 PIN MALE HEADER PITCH 2.54MM	WURTH	DIGIKEY	732-5321-ND
2	1	C1	10uF/10V SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
3	2	C2,C3	0.1uF/50V SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
4	2	R3,C4	DNP	MURATA/YAGEO	DIGIKEY	
5	2	C5,C6	22PF/50V SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
6	3	DS1,DS2,DS3	0.5/0.56 INCH 7 SEGMENT COMMON CATHODE DISPLAY	SUN LED	DIGIKEY	3267-XDMR14C-1-ND
7	3	Q1,Q2,Q3	BC847AL	NEXPERIA	DIGIKEY	1727-2924-2-ND
8	1	R1	10K 5% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
9	1	R2	10E 5% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
10	3	R4,R5,R6	1K 5% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
11	8	R7-R14	220E 5% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
12	1	R15	1M 5% SMD SIZE 0805	MURATA/YAGEO	DIGIKEY	
13	1	U1	ATMEGA328TQPF-32	MICROCHIP	DIGIKEY	ATMEGA328PB-AURCT-ND
14	1	U2	3 PIN MALE OR FEMALE HEADER			OPTIONAL
15	1	X1	16Mhz	ECS INC	DIGIKEY	X1103-ND



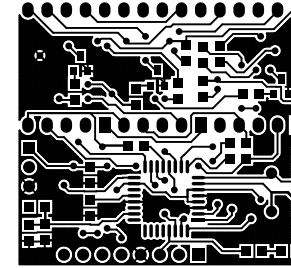
SILK SCREEN TOP



SILK SCREEN BOTTOM



BOTTOM LAYER



TOP LAYER

PCB DIMENSIONS 38.42MM X 35.40MM

