LAMPIRAN

Datasheet Arduino Nano





Arduino Nano Pin Configuration

Pin Category	Pin Name	Details
Power	Vin, 3.3V, 5V, GND	Vin: Input voltage to Arduino when using an external power 12V).
		5V: Regulated power supply used to power microcontroller components on the board.
		3.3V: 3.3V supply generated by on-board voltage regulator. current draw is 50mA.
		GND: Ground pins.

Reset	Reset	Resets the microcontroller.
Analog Pins	A0 – A7	Used to measure analog voltage in the range of 0-5V
Input/Output Pins	Digital Pins D0 - D13	Can be used as input or output pins. 0V (low) and 5V (high)
Serial	Rx, Tx	Used to receive and transmit TTL serial data.
External Interrupts	2, 3	To trigger an interrupt.
PWM	3, 5, 6, 9, 11	Provides 8-bit PWM output.
SPI	10 (SS), 11 (MOSI), 12 (MISO) and 13 (SCK)	Used for SPI communication.
Inbuilt LED	13	To turn on the inbuilt LED.
IIC	A4 (SDA), A5 (SCA)	Used for TWI communication.
AREF	AREF	To provide reference voltage for input voltage.
Arduino Nano Technical Specifications		

Microcontroller	ATmega328P – 8 bit AVR family microcontroller
Operating Voltage	5V
Recommended Input Voltage for Vin pin	7-12V
Analog Input Pins	6 (A0 – A5)
Digital I/O Pins	14 (Out of which 6 provide PWM output)
DC Current on I/O Pins	40 mA

DC Current on 3.3V Pin	50 mA
Flash Memory	32 KB (2 KB is used for Bootloader)
SRAM	2 KB
EEPROM	1 KB
Frequency (Clock Speed)	16 MHz
Communication	IIC, SPI, USART



Pin Configuration:

Pin Number	Pin Name	Description
1	Vcc	Input voltage is +5V for typical applications
2	Analog Out	There will be increase in 10mV for raise of every 1°C. Can range from -1V $6V(150^{\circ}C)$
3	Ground	Connected to ground of circuit

LM35 Regulator Features:

- Minimum and Maximum Input Voltage is 35V and -2V respectively. Typically 5V.
- Can measure temperature ranging from -55°C to 150°C
- Output voltage is directly proportional (Linear) to temperature (i.e.) there will be a rise of 10mV (0.01V) for every 1°C rise in temperature.
- ±0.5°C Accuracy
- Drain current is less than 60uA
- Low cost temperature sensor
- Small and hence suitable for remote applications
- Available in TO-92, TO-220, TO-CAN and SOIC package

Modul Rellay



Relay Pin Configuration

Pin Number	Pin Name	Description
1	Coil End 1	Used to trigger(On/Off) the Relay, Normally one end is connected to 5V and the other end to ground
2	Coil End 2	Used to trigger(On/Off) the Relay, Normally one end is connected to 5V and the other end to ground
3	Common (COM)	Common is connected to one End of the Load that is to be controlled
4	Normally Close (NC)	The other end of the load is either connected to NO or NC. If connected to NC the load remains connected before trigger
5	Normally Open (NO)	The other end of the load is either connected to NO or NC. If

Features of 5-Pin 5V Relay

- Trigger Voltage (Voltage across coil) : 5V DC
- Trigger Current (Nominal current) : 70mA
- Maximum AC load current: 10A @ 250/125V AC
- Maximum DC load current: 10A @ 30/28V DC
- Compact 5-pin configuration with plastic moulding
- Operating time: 10msec Release time: 5msec
- Maximum switching: 300 operating/minute (mechanically)



U Ar >

Pin Description

Pin Number	Pin Name	Description
1	Base	Controls the biasing of transistor, Used to turn ON or OFF the transistor
2	Collector	Current flows in through collector, normally connected to load
3	Emitter	Current Drains out through emitter, normally connected to ground

Features

• NPN Power Transistor

- Low Frequency High Power amplifier
- Continuous Collector current (IC) is 3A
- Collector-Emitter voltage (VCE) is 50 V
- Collector-Base voltage (VCB) is 50
- Emitter Base Voltage (VBE) is 4V
- DC Current Gain (hfe): 35 to 320
- Available in To-220 Package

LED



Features and Technical Specifications

- Superior weather resistance
- 5mm Round Standard Directivity
- UV Resistant Eproxy
- Forward Current (IF): 30mA
- Forward Voltage (VF): 1.8V to 2.4V
- Reverse Voltage: 5V
- Operating Temperature: -30°C to +85°C
- Storage Temperature: -40°C to +100°C
- Luminous Intensity: 20mcd

Kabel Jumper

Male toFemale

Kabel yang di gunakan pada rangkaian egg boiler berbasis arduino yang paling

sering digunakan yaitu kabel male to famale, karena sebagai penghubung sangat bagus untuk di kombinasikan dengan rangkaian egg boiler berbasis arduino. Kabel male to famale memiliki dua header yang berbeda itu menjadikan kabel ini biasanya disebut kabel male to famale.



PRIMARY CHARACTERISTICS	
I _{F(AV)}	1.0 A
VRRM	50 V to 1000 V
I _{FSM} (8.3 ms sine-wave)	30 A
I _{FSM} (square wave t _p = 1 ms)	45 A
VF	1.1 V
IR	5.0 µA
T _J max.	150 °C

RESISTOR

inverters, converters and freewheeling diodes application.

- Note
- These devices are not AEC-Q101 qualified.

MECHANICAL DATA

Case: DO-204AL, molded epoxy body Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS compliant, commercial grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

Polarity: Color band denotes cathode end



Pin Configuration

Resistors have two leads, there is no polarity for a resistor and hence can be connected in both directions.

Note: This document refers only to the carbon film resistors, since they are the most widely used ones for all electronic projects.

21%

Features

- Carbon Film Resistor
- 4-band Resistor
- Resistor value varies based on selected parameter
- Power rating varies based on selected parameter



