

# Transistors

Equivalence et caractéristiques des transistors et Mosfet

## 2N2222 Datasheet,

Type Designator: 2N2222

SMD Transistor Code: 1B

Material of Transistor: Si

Polarity: NPN

Maximum Collector Power Dissipation ( $P_c$ ): 0.5 W

**Maximum Collector-Base Voltage  $|V_{cb}|$ : 60 V**

**Maximum Collector-Emitter Voltage  $|V_{ce}|$ : 30 V**

**Maximum Emitter-Base Voltage  $|V_{eb}|$ : 5 V**

**Maximum Collector Current  $|I_c \text{ max}|$ : 0.8 A**

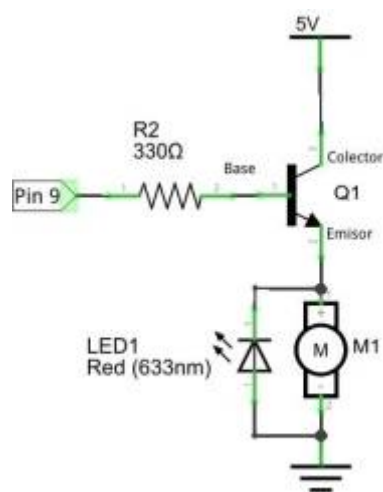
Max. Operating Junction Temperature ( $T_j$ ): 175 °C

Transition Frequency ( $f_t$ ): 250 MHz

Collector Capacitance ( $C_c$ ): 8 pF

Forward Current Transfer Ratio ( $h_{FE}$ ), MIN: 100

<https://image.tubefr.com/upload/9/f4/9f433f5812b393aa56a96a086ef19d25.jpg>



## **BD139 Datasheet,**

Type Designator: BD139

Material of Transistor: Si

Polarity: NPN

Maximum Collector Power Dissipation (Pc): 12 W

**Maximum Collector-Base Voltage |Vcb|: 80 V**

**Maximum Collector-Emitter Voltage |Vce|: 80 V**

**Maximum Emitter-Base Voltage |Veb|: 5 V**

**Maximum Collector Current |Ic max|: 1 A**

Max. Operating Junction Temperature (Tj): 150 °C

Transition Frequency (ft): 50 MHz

Forward Current Transfer Ratio (hFE), MIN: 40

Noise Figure, dB: -

Package: TO126

## **Mosfet**

### **IRF520N MOSFET.**

Type Designator: IRF520N

Type of Transistor: MOSFET

Type of Control Channel: N -Channel

Maximum Power Dissipation (Pd): 48 W

**Maximum Drain-Source Voltage |Vds|: 100 V**

**Maximum Gate-Source Voltage |Vgs|: 10 V**

**Maximum Gate-Threshold Voltage |Vgs(th)|: 4 V**

**Maximum Drain Current |Id|: 9.7 A**

Maximum Junction Temperature (Tj): 150 °C

Total Gate Charge (Qg): 16.7 nC

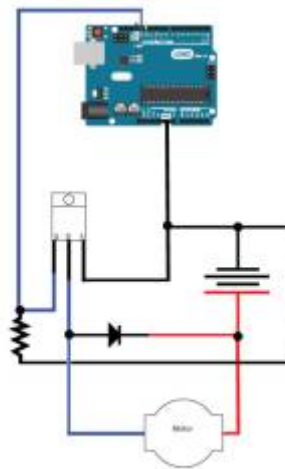
Maximum Drain-Source On-State Resistance (Rds): 0.2 Ohm

Package: TO220AB

[http://wiki.mchobby.be/index.php?title=Mini\\_Kit\\_Moteur\\_Hobbyiste](http://wiki.mchobby.be/index.php?title=Mini_Kit_Moteur_Hobbyiste)

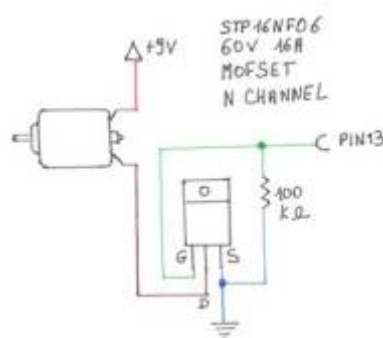
Déclenchement pompe avec transistor mosfelt

<https://www.instructables.com/id/ArduinoMicrocontroller-MOSFET/>



Picture of Wire Up the MOSFET

DC motor driven by MOSFET



From: <https://chanterie37.fr/fablab37110/> - **Castel'Lab le Fablab MJC de Château-Renault**

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