

[](#)

[](#)

Tugas Besar Kontrol Kebun

<div style="text-align: center;">

[\[KEMBALI KE MENU SEBELUMNYA\]</div>](#)

<center>

<div style="background-color: white; border: 2px dashed rgb(23, 128, 221); height: 240px; overflow: auto; padding: 10px; text-align: center; width: 330px;">

DAFTAR ISI

<div style="text-align: left;">

[1. Tujuan](#tujuan)</div>

<div style="text-align: left;">

[2. Komponen](#komponen)</div>

<div style="text-align: left;">

[3. Dasar Teori](#dasar teori)</div>

<div style="text-align: left;">

[3a. Example](#example)</div>

<div style="text-align: left;">

[4. Video](#video) </div>

<div style="text-align: left;">

[5. Download file](#download)</div>

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</center>

1. Tujuan[Kembali]<div><ol style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; text-align: justify;"><li style="margin: 0px 0px 0.25em; padding: 0px;">Dapat memahami peng-aplikasian Op-Amp, detektor, dan amplifier<li style="margin: 0px 0px 0.25em; padding: 0px;">Dapat memahami rangkaian Op-Amp, detektor, dan amplifier<li style="margin: 0px 0px 0.25em; padding: 0px;">Dapat mensimulasikan rangkaian Op-Amp, detektor, dan amplifier<li style="margin: 0px 0px 0.25em; padding: 0px;">Membuat rangkaian kontrol kebun dengan menggunakan touch sensor, rain sensor, dan sound sensor</div>

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<a name="komponenten">
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font-family: Crushed; font-size: 26.4px;"> </div></blockquote></blockquote></blockquote></blockquote></blockquote></blockquote><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px;">Baterai merupakan sebuah alat yang mengubah energi kimia yang tersimpan menjadi energi listrik. Pada percobaan kali ini, baterai berfungsi sebagai sumber daya atau.</div></blockquote></blockquote><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px;">
</div></blockquote></blockquote><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px;">Spesifikasi dan Pinout Baterai</div></blockquote></blockquote></blockquote><div class="separator" style="background-color: white; clear: both; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; text-align: center;"></div><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; text-align: justify;"><p class="MsoNormal" style="background-attachment: initial; background-clip: initial; background-image: initial; background-origin: initial; background-position: initial; background-repeat: initial; background-size: initial; line-height: normal; margin-bottom: 12pt; vertical-align: baseline;"></p><ul style="line-height: 1.4; margin: 0.5em 0px; padding: 0px 2.5em;"><li style="margin: 0px 0px 0.25em; padding: 0px;">Input voltage: ac 100~240v / dc 10~30v<li style="margin: 0px 0px 0.25em; padding: 0px;">Output voltage: dc 1~35v<li style="margin: 0px 0px 0.25em; padding: 0px;">Max. Input current: dc 14a<li style="margin: 0px 0px 0.25em; padding: 0px;">Charging current: 0.1~10a<li style="margin: 0px 0px 0.25em; padding: 0px;">Discharging current: 0.1~1.0a<li style="margin: 0px 0px 0.25em; padding: 0px;">Balance current: 1.5a/cell max<li style="margin: 0px 0px 0.25em; padding: 0px;">Max. Discharging power: 15w<li style="margin: 0px 0px 0.25em; padding: 0px;">Max. Charging power: ac 100w / dc 250w<li style="margin: 0px 0px 0.25em; padding: 0px;"><span style="color:

#444444;">Jenis batre yg didukung: life, lilon, lipo 1~6s, lihv 1-6s, pb 1-12s, nimh, cd 1-16s<li style="margin: 0px 0px 0.25em; padding: 0px;">Ukuran: 126x115x49mm<li style="margin: 0px 0px 0.25em; padding: 0px;">Berat: 460gr</div><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"></div></div><p style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"> </p><div style="background-color: white; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"><h3 style="margin: 0px; position: relative;"><ul style="font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; line-height: 1.4; margin: 0.5em 0px; padding: 0px 2.5em;"><li style="margin: 0px 0px 0.25em; padding: 0px;"><b style="font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif;"> Bahan<div>
</div><div>
</div></h3></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;">1) Resistor</div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div class="separator" style="clear: both; text-align: center;"></div></div></h3></div></blockquote><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><span

style="color: #424242;">Resistor adalah komponen Elektronika Pasif yang memiliki nilai resistansi atau hambatan tertentu yang berfungsi untuk membatasi dan mengatur arus listrik dalam suatu rangkaian Elektronika ($V=I R$). </div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;">
</div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;">Cara menghitung nilai resistor:</div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div style="color: black;"><div style="text-align: center;">Tabel warna</div></div></div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div style="color: black; font-family: "Comic Sans MS";"><div style="text-align: justify;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: center;"></div></div></div></div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div style="color: black; font-family: "Comic Sans MS";"><div style="text-align: justify;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: center;"><a href="https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEjoHZTwVmA7WVjr0j2uMofHvJRE-Vm1sjOw8zw6GIHFb3LVVhTd25tE7pCsuCdK8qkl-ByVykcO8PcSQ8bMmv6QIHkW6mOgGmAHgNYu5Jm4fWyeDIS6lbgU5SibMTmVkgkmCkcPny63NkMKJ9TcZ6_TZj-FvGCNay8UC_sPT1LRhAfU92t0vaqDYmZ4/s600/WhatsApp%20Image%202022-07-04%20at%2009.10.18.jpeg" style="color: #cd2b25; margin-left: 1em;

margin-right: 1em; text-decoration-line: none;"></div></div></div></div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div style="color: black; font-family: "Comic Sans MS";"><div style="text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">
</div></div></div></div></div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div style="color: black; font-family: "Comic Sans MS";"><div style="text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">Contoh :</div></div></div></div></div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div style="color: black; font-family: "Comic Sans MS";"><div style="text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">Gelang ke 1 : Coklat = 1</div></div></div></div></div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div style="color: black; font-family: "Comic Sans MS";"><div style="text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">Gelang ke 2 : Hitam = 0</div></div></div></div></div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div style="color: black; font-family: "Comic Sans MS";"><div style="text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">Gelang ke 3 : Hijau = 5 nol dibelakang angka gelang ke-2; atau kalikan 105</div></div></div></div></div></h3></div><div style="background-color:

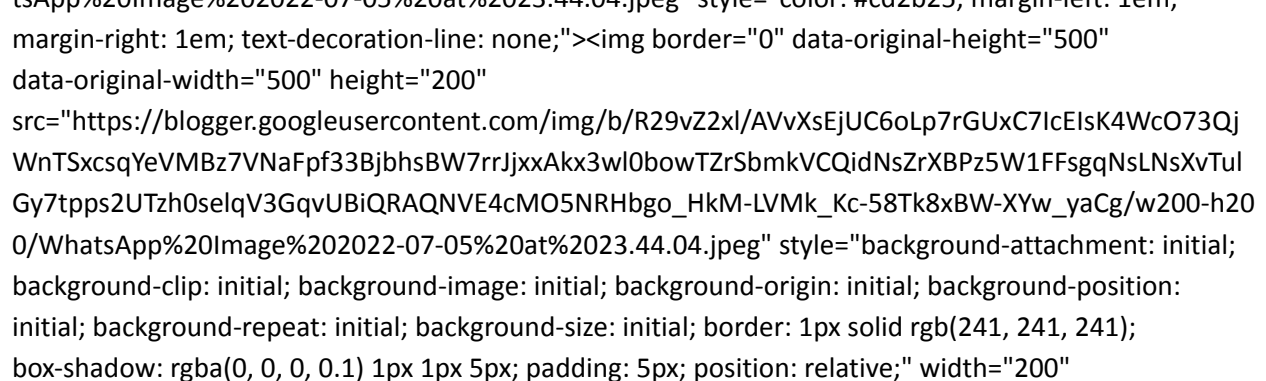
white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div style="color: black; font-family: "Comic Sans MS";"><div style="text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">Gelang ke 4 : Perak = Toleransi 10%</div></div></div></div></div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div style="color: black; font-family: "Comic Sans MS";"><div style="text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">Maka nilai resistor tersebut adalah $10 \times 105 = 1.000.000 \text{ Ohm}$ atau 1 MOhm dengan toleransi 10%.</div></div></div></div></div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div style="color: black; font-family: "Comic Sans MS";"><div style="text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">
</div></div></div></div></div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;">Spesifikasi</div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"></div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;">
</div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;">2) Dioda</div></h3></div><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div class="separator" style="clear: both; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align:

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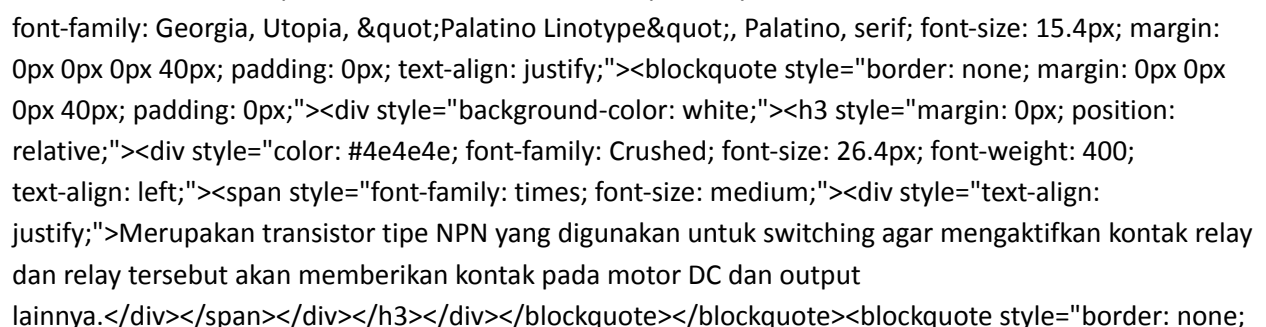
menghantarkan arus listrik ke satu arah tetapi menghambat arus listrik dari arah sebaliknya. Oleh karena itu, Dioda sering dipergunakan sebagai penyearah dalam Rangkaian Elektronika. Dioda pada umumnya mempunyai 2 Elektroda (terminal) yaitu Anoda (+) dan Katoda (-) dan memiliki prinsip kerja yang berdasarkan teknologi pertemuan p-n semikonduktor yaitu dapat mengalirkan arus dari sisi tipe-p (Anoda) menuju ke sisi tipe-n (Katoda) tetapi tidak dapat mengalirkan arus ke arah sebaliknya.

Transistor

Transistor merupakan komponen elektronika yang dapat memperkuat sinyal. Transistor juga dapat berfungsi sebagai pemutus tenaga. Transistor terbagi menjadi dua jenis, yaitu transistor NPN dan transistor PNP. Transistor NPN memiliki simbol seperti gambar di bawah ini.



Transistor NPN memiliki tiga terminal, yaitu Base, Emitter, dan Kolektor. Base adalah terminal yang paling kecil, Emitter adalah terminal yang paling besar, dan Kolektor adalah terminal yang paling panjang. Transistor NPN memiliki simbol seperti gambar di bawah ini.



Transistor PNP memiliki tiga terminal, yaitu Base, Emitter, dan Kolektor. Base adalah terminal yang paling kecil, Emitter adalah terminal yang paling besar, dan Kolektor adalah terminal yang paling panjang. Transistor PNP memiliki simbol seperti gambar di bawah ini.

#222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;">Spesifikasi

</div></h3></div></blockquote></blockquote><div style="background-color: white; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><ul style="line-height: 1.4; list-style-image: initial; list-style-position: initial; margin: 0.5em 0px; padding: 0px 2.5em;"><ul style="line-height: 1.4; list-style: disc; margin: 0.5em 0px; padding: 0px 2.5em;"><li style="border: none; margin: 0px 0px 0.25em; padding: 0px;">Bi-Polar Transistor<o:p></o:p><li style="border: none; margin: 0px 0px 0.25em; padding: 0px;">DC Current Gain (hFE) is 800 maximum<li style="border: none; margin: 0px 0px 0.25em; padding: 0px;">Continuous Collector current (IC) is 100mA<o:p></o:p><li style="border: none; color: #424242; margin: 0px 0px 0.25em; padding: 0px;">Emitter Base Voltage (VBE) is > 0.6V<li style="border: none; color: #424242; margin: 0px 0px 0.25em; padding: 0px;">Base Current(IB) is 5mA maximum<div style="font-family: arial; font-size: x-large;">br /></div></div></h3></div></blockquote></blockquote><div style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;">4) Op Amp - LM741</div></h3></div></blockquote></blockquote><div style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;">Op Amp

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font-size: 15.4px; text-align: justify;"><h3 style="margin: 0px; position: relative;"><div style="text-align: left;"><p class="MsoNormal" style="color: #424242; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: 26.4px; font-weight: 400; margin-left: 0.5in;"></p><div class="separator" style="clear: both; color: #424242; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: 26.4px; font-weight: 400; text-align: center;"> </div><div class="separator" style="clear: both; color: #424242; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: 26.4px; font-weight: 400; text-align: center;">Konfigurasi PIN LM741</div><div class="separator" style="clear: both; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: center;"></div><div class="separator" style="clear: both; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: center;"><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="text-align: left;"><div class="separator" style="clear: both;"><div style="text-align: justify;"><div class="separator" style="clear: both; color: #424242; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div class="separator" style="clear: both;">Pinout
:</div></div></div></div></div></div></h3></div></blockquote></blockquote><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="text-align: left;"><div class="separator" style="clear: both;"><div style="text-align: justify;"><div class="separator" style="clear: both; color: #424242; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div class="separator" style="clear: both;"></div></div></div></div></div></div></h3></div></blockquote></blockquote></blockquote></blockquote><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white;"><h3 style="margin: 0px; position: relative;"><div style="text-align: left;"><div class="separator" style="clear: both;"><div style="text-align: justify;"><div class="separator" style="clear: both; color: #424242; font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div class="separator" style="clear: both;">Spesifikasi</div></div></div></div></div></div></div></h3></div></blockquote></blockquote><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div

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href="https://1.bp.blogspot.com/-h5vvp8wIGbQ/YD0InCtUbUI/AAAAAAAAAbl/4yTPUVBscU4BufEtcNPQ5bCqEU_1gn5FQCLcBGAsYHQ/s397/Sensor-Suara.png" style="color: #3540a0; margin-left: 1em; margin-right: 1em; text-align: center; text-decoration-line: none;"></p></div></div></blockquote></blockquote><p style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; text-align: justify;"> </p><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white;"><div style="font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div class="separator" style="clear: both; color: #424242;">Pin OUT</div></div></div></blockquote></blockquote></blockquote><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white;"><div style="font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div class="separator" style="clear: both; text-align: center;"></div></div></div></blockquote></blockquote></blockquote></blockquote><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white;"><div style="font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div class="separator" style="clear: both; color:

#424242;"Spesifikasi</div></div></div></blockquote></blockquote><div style="background-color: white; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; text-align: justify;"><div style="font-weight: 400; text-align: left;"><div class="separator" style="clear: both; color: #666666; line-height: 1.4; list-style: inherit; margin: 0px 0px 10px; padding: 0px 5px 0px 40px; text-align: justify;"><ul style="line-height: 1.4; margin: 0.5em 0px; padding: 0px 2.5em;"><ul style="font-family: Crushed; font-size: 26.4px; line-height: 1.4; margin: 0.5em 0px; padding: 0px 2.5em;">li style="box-sizing: border-box; line-height: 1.4; margin: 0px 0px 0.25em; padding: 0px;"> Working voltage: DC 3.3-5V<li style="box-sizing: border-box; line-height: 1.4; margin: 0px 0px 0.25em; padding: 0px;"> Dimensions: 45 x 17 x 9 mm<li style="box-sizing: border-box; line-height: 1.4; margin: 0px 0px 0.25em; padding: 0px;"> Signal output indication<li style="box-sizing: border-box; line-height: 1.4; margin: 0px 0px 0.25em; padding: 0px;"> Single channel signal output<li style="box-sizing: border-box; line-height: 1.4; margin: 0px 0px 0.25em; padding: 0px;"> With the retaining bolt hole, convenient installation<li style="box-sizing: border-box; line-height: 1.4; margin: 0px 0px 0.25em; padding: 0px;"> Outputs low level and the signal light when there is sound<div style="text-align: justify;">
</div><div style="text-align: justify;">
</div></div></div></div></div></blockquote></blockquote><p style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; text-align: justify;"> </p><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div class="separator" style="clear: both; color: #424242;">Grafik Respons Sensor Sound</div></div></div></blockquote></blockquote><p style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; text-align: justify;"> </p><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white;"><div style="font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div class="separator" style="clear: both; color: #424242;">wiper</i> mobil
secara otomatis akan berfungsi tanpa harus mengaktifkan saklar
manual.</div></h3></div></blockquote></blockquote><p
style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif;
font-size: 15.4px; text-align: justify;"> </p><blockquote style="border: none; color: #222222;
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Helvetica, FreeSans, sans-serif; margin: 0px; position: relative;"><b
style="font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif;"><div
style="font-family: "Times New Roman"; font-size: 14.52px; font-weight: 400;"><span
style="font-family: Arial; font-size: 12pt;">Specifications<span style="background-color:
transparent; text-align: left;">
:</div></h3></div></blockquote></blockquote><blockquote style="border: none;
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style="font-weight: normal;">■ <span
style="font-family: Arial; font-size: 12pt;">Adopts high quality of RF-04 double sided
material.</div><div><span style="font-family:
Symbol; font-size: 12pt;">■ Area: 5cm x
4cm nickel plate on side,</div><div><span
style="font-family: Symbol; font-size: 12pt;">■ <span style="font-family: Arial; font-size:
12pt;">Anti-oxidation, anti-conductivity, with long use time;</div><div><span
style="font-weight: normal;">■ <span
style="font-family: Arial; font-size: 12pt;">Comparator output signal clean waveform is good, driving
ability, over 15mA;</div><div><span
style="font-family: Symbol; font-size: 12pt;">■ <span style="font-family: Arial; font-size:
12pt;">Potentiometer adjust the sensitivity;</div><div><span style="font-weight:
normal;">■ <span style="font-family:
Arial; font-size: 12pt;">Working voltage 5V;</div><div><span style="font-weight:
normal;">■ <span style="font-family:
Arial; font-size: 12pt;">Output format: Digital switching output (0 and 1) and analog voltage output
AO;</div><div><span style="font-family: Symbol;
font-size: 12pt;">■ With bolt holes for
easy installation;</div><div><span
style="font-family: Symbol; font-size: 12pt;">■ <span style="font-family: Arial; font-size:
12pt;">Small board PCB size: 3.2cm x 1.4cm;</div><div><span style="font-weight:
normal;">■ <span style="font-family:
Arial; font-size: 12pt;">Uses a wide voltage LM393
comparator</div></h3></div></blockquote></blockquote><p style="color: #222222;

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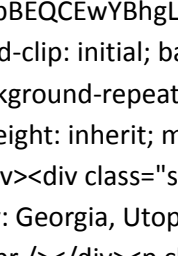
36pt;">
<br style="text-indent: 0px;" /></p><div style="background-color: white; color: #222222; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: 13.2px; text-align: justify;">
</div><div class="separator" style="background-color: white; clear: both; color: #222222; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: 13.2px; text-align: center;"></div><p class="auphi" style="background-color: white; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15px; line-height: 22.5px; text-align: justify; text-indent: 36pt;"><br style="font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: 13.2px;" /><br style="text-indent: 0px;" /></p><div class="separator" style="background-color: white; clear: both; color: #222222; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: 13.2px; text-align: center;"></div><div class="separator" style="background-color: white; clear: both; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15px; text-align: center;"><img border="0" data-original-height="377" data-original-width="600" height="201" src="https://1.bp.blogspot.com/-5SiDsdLbwZI/XgoeZjVigdl/AAAAAAAAAc4/ee9GQqyujDlFkrcqOzLLQeiNRk306cTAQCEwYBhgL/s320/543530.fig.0012a.jpg" style="background-attachment: initial;

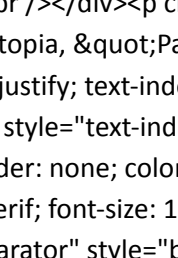
background-clip: initial; background-image: initial; background-origin: initial; background-position: initial; background-repeat: initial; background-size: initial; border: 0px; box-shadow: rgba(0, 0, 0, 0.1) 1px 1px 5px; height: inherit; max-width: 100%; padding: 5px; position: relative;" width="320" /></div><p class="auphi" style="background-color: white; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15px; line-height: 22.5px; text-align: justify; text-indent: 36pt;"><br style="text-indent: 0px;" /></p><div class="separator" style="background-color: white; clear: both; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15px; text-align: center;">a

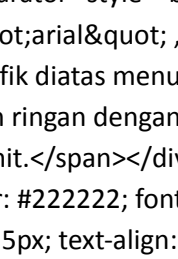
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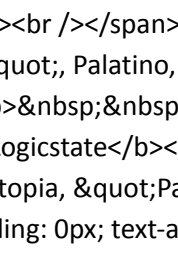
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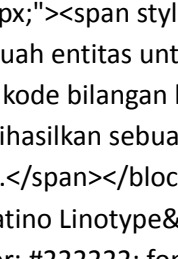
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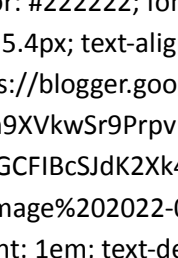














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15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div>
</div><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; text-align: left;"><div class="separator" style="clear: both; color: #424242;">1) Relay</div></div></blockquote><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; text-align: left;"><div class="separator" style="clear: both; color: #424242;"> </div></div></blockquote><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; text-align: left;"><div class="separator" style="clear: both; color: #424242;">Spesifikasi </div></div></blockquote><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; text-align: left;"><div class="separator" style="clear: both; color: #424242;"><div class="separator" style="clear: both; text-align: center;"></div></div></div></blockquote><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; text-align: left;"><div class="separator" style="clear: both; color: #424242;">
</div></div></blockquote><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white;

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<div class="separator" style="clear: both; text-align: center;>a

</div></div></div></blockquote><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;>

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Relay umumnya adalah tegangan input 5 VDC, 12 VDC atau 48 VDC. Untuk common dan NO NC umumnya 220 vac dengan arus kerja 10 A.</div></div></blockquote></blockquote>

<div style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;>

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<li style="margin: 0px 0px 0.25em; padding: 0px;>

Konfigurasi pin Relay dihubungkan ke 5V

<li style="margin: 0px 0px 0.25em; padding: 0px;>

GND dihubungkan ke GND

<li style="margin: 0px 0px 0.25em; padding: 0px;>

IN1/Data dihubungkan ke pin 2</div></div>

<blockquote style="border: none; color: #222222; font-family:

Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; text-align: left;">Pinout</div></blockquote></blockquote><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; text-align: left;"><div class="separator" style="clear: both; text-align: center;"></div></div></blockquote></blockquote><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div style="background-color: white; color: #4e4e4e; font-family: Crushed; font-size: 26.4px; text-align: left;"><div class="separator" style="clear: both; text-align: center;"><img border="0" data-original-height="385" data-original-width="584" height="211" src="https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEj18ohEA_QUSpsbadbCwMfQ4vZ9w9k6Q-M80QwhHDG3ImmlRTjLm90MHPD-TgN07Khd-1ZwAydWpdxoEVWblhOgB5vGDdw5iLdjt2-0FZ61YFMgLO8dvAZQgyDHPjPQwCbVY2g4M3853LhUIm45U-mSY8MDTTzKr0vnLI6B5ppEGcw1ZppSFdbeF4s/s320/RELAY%20PIN%20KONFIGURASI.png" style="background-attachment: initial; background-clip: initial; background-image: initial; background-origin: initial; background-position: initial; background-repeat: initial; background-size: initial; border: 1px solid rgb(241, 241, 241); box-shadow: rgba(0, 0, 0, 0.1) 1px

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style="background-color: white; box-sizing: border-box; color: #111111; font-family: -apple-system, BlinkMacSystemFont, "Segoe UI", Roboto, "Helvetica Neue", Arial, "Noto Sans", sans-serif, "Apple Color Emoji", "Segoe UI Emoji", "Segoe UI Symbol", "Noto Color Emoji"; font-size: 18px; font-weight: 500; line-height: 28px; margin: 11.5px 0px; position: relative;"><strong style="box-sizing: border-box;">Buzzer Pin <strong style="box-sizing: border-box;">Configuration</h3></blockquote><table style="background-color: white; border-collapse: collapse; border-spacing: 0px; border: 1px solid rgb(221, 221, 221); color: #303030; font-family: -apple-system, BlinkMacSystemFont, "Segoe UI", Roboto, "Helvetica Neue", Arial, "Noto Sans", sans-serif, "Apple Color Emoji", "Segoe UI Emoji", "Segoe UI Symbol", "Noto Color Emoji"; font-size: 14px; margin-bottom: 23px; max-width: 100%; text-align: justify; width: 772px;"><tbody style="box-sizing: border-box;"><tr style="box-sizing: border-box;"><td style="border-color: rgb(221, 221, 221); border-style: solid; border-width: 1px 1px 1px 0px; box-sizing: border-box; line-height: 1.65; padding: 8px; vertical-align: top;"><p style="box-sizing: border-box; font-size: 16px; line-height: 30px; margin: 6px 0px 10px 10px;"><strong style="box-sizing: border-box;">Pin Number</p></td><td style="border-color: rgb(221, 221, 221); border-style: solid; border-width: 1px 1px 1px 0px; box-sizing: border-box; line-height: 1.65; padding: 8px; vertical-align: top;"><p style="box-sizing: border-box; font-size: 16px; line-height: 30px; margin: 6px 0px 10px 10px;"><strong style="box-sizing: border-box;">Pin Name</p></td><td style="border-color: rgb(221, 221, 221); border-style: solid; border-width: 1px 1px 1px 0px; box-sizing: border-box; line-height: 1.65; padding: 8px; vertical-align: top;"><p style="box-sizing: border-box; font-size: 16px; line-height: 30px; margin: 6px 0px 10px 10px;"><strong style="box-sizing: border-box;">Description</p></td></tr><tr style="box-sizing: border-box;"><td style="border-color: rgb(221, 221, 221); border-style: solid; border-width: 1px 1px 1px 0px; box-sizing: border-box; line-height: 1.65; padding: 8px; vertical-align: top;"><p style="box-sizing: border-box; font-size: 16px; line-height: 30px; margin: 6px 0px 10px 10px;">1</p></td><td style="border-color: rgb(221, 221, 221); border-style: solid; border-width: 1px 1px 1px 0px; box-sizing: border-box; line-height: 1.65; padding: 8px; vertical-align: top;"><p style="box-sizing: border-box; font-size: 16px; line-height: 30px; margin: 6px 0px 10px 10px;">Positive</p></td><td style="border-color: rgb(221, 221, 221); border-style: solid; border-width: 1px 1px 1px 0px; box-sizing: border-box; line-height: 1.65; padding: 8px; vertical-align: top;"><p style="box-sizing: border-box; font-size: 16px; line-height: 30px; margin: 6px 0px 10px 10px;">Identified by (+) symbol or longer terminal lead. Can be powered by 6V DC </p></td></tr><tr style="box-sizing: border-box;"><td style="border-color: rgb(221, 221, 221); border-style: solid; border-width: 1px 1px 1px 0px; box-sizing: border-box; line-height: 1.65; padding: 8px; vertical-align: top;"><p style="box-sizing: border-box; font-size: 16px; line-height: 30px; margin: 6px 0px 10px 10px;">2</p></td><td style="border-color: rgb(221, 221, 221); border-style: solid; border-width: 1px 1px 1px 0px; box-sizing: border-box; line-height: 1.65; padding: 8px; vertical-align: top;"><p style="box-sizing: border-box; font-size: 16px; line-height: 30px; margin: 6px 0px 10px 10px;"></p></td><td style="border-color: rgb(221, 221, 221); border-style: solid; border-width: 1px 1px 1px 0px; box-sizing: border-box; line-height: 1.65; padding: 8px; vertical-align: top;"><p style="box-sizing: border-box; font-size: 16px; line-height: 30px; margin: 6px 0px 10px 10px;"></p></td></tr></tbody></table>

Negative terminal lead

Identified by short terminal lead. Typically connected to the ground of the circuit

Buzzer Features and Specifications

- Rated Voltage: 6V DC
- Operating Voltage: 4-8V DC
- Rated current: 30mA
- Sound Type: Continuous Beep
- Resonant Frequency: ~2300 Hz
- Small and neat sealed package
- Breadboard and Perf board friendly

Background-color: white; color: #4e4e4e; font-family: Crushed; text-align: left;

Color: #424242; font-family: times;

Color: #424242; font-family: times;

Color: black; font-family: Times New Roman;

Font-size: medium;

[illegible]

margin-left: 1em; margin-right: 1em; text-decoration-line: none;"></div><div>Resistor adalah komponen Elektronika Pasif yang memiliki nilai resistansi atau hambatan tertentu yang berfungsi untuk membatasi dan mengatur arus listrik dalam suatu rangkaian Elektronika ($V=IR$).</div></div></div><div><div style="font-family: times; font-size: large;"><div>Jenis Resistor yang digunakan disini adalah Fixed Resistor, dimana merupakan resistor dengan nilai tetap terdiri dari film tipis karbon yang diendapkan subtrat isolator kemudian dipotong berbentuk spiral. Keuntungan jenis fixed resistor ini dapat menghasilkan resistor dengan toleransi yang lebih rendah.</div><div>Cara menghitung nilai resistor:</div><div style="text-align: center;">Tabel warna</div></div><div><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: center;"></div><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: center;"><img border="0" data-original-height="432" data-original-width="600" height="230" src="https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEjoHZZTwVmA7WVjr0j2uMofHvJRE-V

m1sjOw8zw6GIHFb3LVVhTd25tE7pCsuCdK8qkl-ByVykcO8PcSQ8bMmv6QlHkW6mOgGmAHgNYu5Jm4fWyeDIS6lbgU5SIbMTmVKGmCkcPny63NkMKJ9TcZ6_TZj-FvGCNay8UC_sPT1LRhAfU92t0vaqDYmZ4/s320/WhatsApp%20Image%202022-07-04%20at%2009.10.18.jpeg" style="background-attachment: initial; background-clip: initial; background-image: initial; background-origin: initial; background-position: initial; background-repeat: initial; background-size: initial; border: 1px solid rgb(241, 241, 241); box-shadow: rgba(0, 0, 0, 0.1) 1px 1px 5px; padding: 5px; position: relative;" width="320" /></div><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">
</div><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">Contoh</div><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">Gelang ke 1 : Coklat = 1</div><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">Gelang ke 2 : Hitam = 0</div><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">Gelang ke 3 : Hijau = 5 nol dibelakang angka gelang ke-2; atau kalikan 105</div><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">Gelang ke 4 : Perak = Toleransi 10%</div><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">Maka nilai resistor tersebut adalah $10 \times 105 = 1.000.000 \text{ Ohm}$ atau 1 MOhm dengan toleransi 10%.</div><div class="separator" style="clear: both;"></div>
<div class="separator" style="clear: both;"></div>
<div class="separator" style="clear: both;"></div>
<div class="separator" style="clear: both; font-family: times; font-size: large; text-align: left;">
</div></div></div></div></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div style="font-family: times; font-size: large;">2)</div></div></div></blockquote><div style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; text-align: justify;"><span face="Arial, Tahoma, Helvetica, FreeSans, sans-serif" style="background-color:

white;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: center;"></div><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: center;">
</div><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: center;">Spesifikasi</div><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: center;"><div class="separator" style="clear: both;"></div>
</div><div style="text-align: justify;"><div>Dioda adalah komponen yang terbuat dari bahan semikonduktor dan mempunyai fungsi untuk menghantarkan arus listrik ke satu arah tetapi menghambat arus listrik dari arah sebaliknya. Sebuah Dioda dibuat dengan menggabungkan dua bahan semi-konduktor tipe-P dan semi-konduktor tipe-N. Ketika dua bahan ini digabungkan, terbentuk lapisan kecil lain di antaranya yang disebut depletion layer. Ini karena lapisan tipe-P memiliki hole berlebih dan lapisan tipe-N memiliki elektron berlebih dan keduanya mencoba berdifusi satu sama lain membentuk penghambat resistansi tinggi antara kedua bahan seperti pada gambar di bawah ini. Lapisan penyumbatan ini disebut depletion layer.</div><div> </div><div>Ketika tegangan positif diterapkan ke Anoda dan tegangan negatif diterapkan ke Katoda, dioda dikatakan dalam kondisi bias maju. Selama keadaan ini tegangan positif akan memompa lebih banyak hole ke daerah tipe-P dan tegangan negatif akan memompa lebih banyak elektron ke daerah tipe-N yang menyebabkan depletion layer hilang sehingga arus mengalir dari Anoda ke Katoda. Tegangan minimum yang diperlukan untuk membuat dioda bias maju disebut forward breakdown voltage.</div><div><span

[illegible]

DC.

2. Dioda Zener yang berfungsi sebagai pengamanan rangkaian dan juga sebagai penstabil tegangan.

3. Dioda LED yang berfungsi sebagai lampu Indikator ataupun lampu penerangan.

4. Dioda Photo yang berfungsi sebagai sensor cahaya.

5. Dioda Schottky yang berfungsi sebagai Pengendali.

Untuk menentukan arus zenner & berlaku persamaan:

[](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEiz6-vxf67maTCAJ3rT_HYPYLHmViosXsEoHBxNIFwrspp5l3fNziDC-xEmG_TyGX6CUnD0WJk5ORTa8MznTCcUaMBwO7Ap55rK3NoupiuCijvz1RVs-KeuYIJZ1MP4ntyItjbb0bB5KzbTQSwGthU6PmFgWG4wQ8wYiM-jmr78a9sQ7fSaQ0GGXelR/s156/rumus%20arus%20zenner%20dioda.PNG)

Keterangan:

[](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEg24DzykcdNTXDdudHFc9dPwjfkCxrPkiCsZXboQZlHm4mxpUXVNDqbO1-hoArQqGkOoegC7fSHHik2EMwbDDV1B9Two48hJk1clPgVCTIPs_7c3K8AfmNo1irXjLp0G-WxNHMA_j98MG-IU4_XY6SRjQ_Y1f2sXckNnqO6M3McUpUWNKv5lz1NFMWI/s266/keterangan%20rumus.PNG)

[<img border="0" data-original-height="274" data-original-width="320" height="274"](https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEj8Z3uPnJtNC3Yi4yoVkyJwqDehMCZdur-X1aM1zOPMvM8jvho-gk4Bc8xvqqFuXi2VLWfnmjvYUV7ksfJQm2kl7ZxUBcDBDa4l8-xT3ZfTiQ0Pm8aCbdafEzAuIXWUdCDkDPb1cWs_zvoQXx1-5AUw3-f0mJxqIGcQx-R54wlg_NK4Hz-MjQMO--Es/s320/grafik%20Orumus%20dioda.PNG)

https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEj8Z3uPnJtNC3Yi4yoVkyJwqDehMCZdur-X1aM1zOPMvM8jvho-gk4Bc8xvqqFuXi2VLWfnmjvYUV7ksfJQm2kl7ZxUBcDBDa4l8-xT3ZftIQ0Pm8acbdafEzAuIXWUdCDkDPb1cWs_zvoQXx1-5AUw3-f0mJxqlGcQx-R54wlg_NK4Hz-MjQMO--Es/s1600/grafik%20rumus%20dioda.PNG

Pada grafik terlihat bahwa pada tegangan dibawah ambang batas tegangan mundur (reverse) sebuah dioda akan tembus (menghantar) dan tidak bisa menahan lagi. Batas ini disebut dengan area tegangan breakdown dioda. Kondisi dioda pada area ini adalah tembus atau menghantar dan tidak menghambat. Kemudian pada level tegangan diantara tegangan breakdown dan tegangan forward terdapat area tegangan reverse dan tegangan cut off. Pada area ini kondisi dioda adalah menahan atau tidak mengalirkan arus listrik.

Transistor

Transistor adalah sebuah komponen di dalam elektronika yang diciptakan dari bahan-bahan semikonduktor dan memiliki tiga buah kaki. Masing-masing kaki disebut sebagai basis, kolektor, dan emitor.

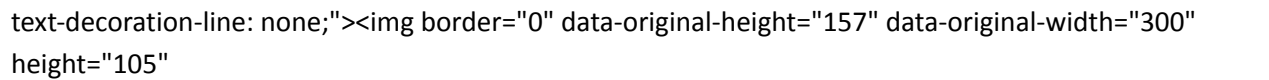
1. Emitor (E) memiliki fungsi untuk menghasilkan elektron atau muatan negatif.

2. Kolektor (C) berperan sebagai saluran bagi muatan negatif untuk keluar dari dalam transistor.

3. Basis (B) berguna untuk mengatur arah gerak muatan negatif yang keluar dari transistor melalui kolektor.

Berfungsi sebagai penguat, sebagai sirkuit pemutus dan penyambung arus (switching), stabilisasi tegangan, dan modulasi sinyal.

Selain itu, transistor biasanya juga dapat digunakan sebagai saklar dalam rangkaian elektronika. Jika ada arus yang cukup besar di kaki basis, transistor akan mencapai titik jenuh. Pada titik jenuh ini transistor mengalirkan arus secara maksimum dari kolektor ke emitor sehingga transistor seolah-olah short pada hubungan kolektor-emitor. Jika arus base sangat kecil maka kolektor dan emitor bagaikan saklar yang terbuka. Pada kondisi ini transistor dalam keadaan cut off sehingga tidak ada arus dari kolektor ke emitor.



hJKlowlh8PmszOqhMBR9yJLpOFR6OJ4TZSIOykcwOggeYdwYmOXvbNAY4SzcsDbEhdqfGuoepovRr6CUkMHaWqWzo8s_4oF_3rnZF_uf6tJYyL0P-a6Qg9NIKkA8ddo0ZzJZ6ulBXkicwjDCslzr1aaAbjhad/w200-h105/grafik%20saturasi.jpg" style="background-attachment: initial; background-clip: initial; background-image: initial; background-origin: initial; background-position: initial; background-repeat: initial; background-size: initial; border: 1px solid rgb(241, 241, 241); box-shadow: rgba(0, 0, 0, 0.1) 1px 1px 5px; padding: 5px; position: relative;" width="200" /> </div></div><div>
</div><div>Rumus-rumus transistor:</div><div></div>Spesifikasi :
<ul style="font-family: times; font-size: large; line-height: 1.4; list-style-image: initial; list-style-position: initial; margin: 0.5em 0px; padding: 0px 2.5em;"><ul style="line-height: 1.4; list-style: disc; margin: 0.5em 0px; padding: 0px 2.5em;"><li style="border: none; margin: 0px 0px 0.25em; padding: 0px;">Bi-Polar Transistor<li style="border: none; margin: 0px 0px 0.25em; padding: 0px;">DC Current Gain (hFE) is 800 maximum<li style="border: none; margin: 0px 0px 0.25em; padding: 0px;">Continous Collector current (IC) is 100mA<li style="border: none; color: #424242; margin: 0px 0px 0.25em; padding: 0px;">Emitter Base Voltage (VBE) is > 0.6V</div>

margin: 0px 0px 0.25em; padding: 0px;">Base Current(I_B) is 5mA maximum<div class="separator" style="clear: both; font-family: arial;">Konfigurasi Transistor</div><div class="separator" style="clear: both; font-family: arial; font-size: x-large; font-weight: bold; text-align: center;"></div></div></div></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 1.15em; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div class="separator" style="clear: both;">Konfigurasi Common Base adalah konfigurasi yang kaki Basis-nya di-ground-kan dan digunakan bersama untuk INPUT maupun OUTPUT. Pada Konfigurasi Common Base, sinyal INPUT dimasukan ke Emitor dan sinyal OUTPUT-nya diambil dari Kolektor, sedangkan kaki Basis-nya di-ground-kan. Oleh karena itu, Common Base juga sering disebut dengan istilah “Grounded Base”. Konfigurasi Common Base ini menghasilkan Penguatan Tegangan antara sinyal INPUT dan sinyal OUTPUT namun tidak menghasilkan penguatan pada arus.</div></div></div></div><div style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 1.15em; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div class="separator" style="clear: both;">
</div></div></div></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 1.15em; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><span face="Arial, Tahoma, Helvetica,

FreeSans, sans-serif"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div class="separator" style="clear: both;">Konfigurasi Common Collector (CC) atau Kolektor Bersama memiliki sifat dan fungsi yang berlawanan dengan Common Base (Basis Bersama). Kalau pada Common Base menghasilkan penguatan Tegangan tanpa memperkuat Arus, maka Common Collector ini memiliki fungsi yang dapat menghasilkan Penguatan Arus namun tidak menghasilkan penguatan Tegangan. Pada Konfigurasi Common Collector, Input diumpangkan ke Basis Transistor sedangkan Outputnya diperoleh dari Emitor Transistor sedangkan Kolektor-nya di-ground-kan dan digunakan bersama untuk INPUT maupun OUTPUT. Konfigurasi Kolektor bersama (Common Collector) ini sering disebut juga dengan Pengikut Emitor (Emitter Follower) karena tegangan sinyal Output pada Emitor hampir sama dengan tegangan Input

Basis.</div></div></div></blockquote><div style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div class="separator" style="clear: both;">
</div></div></div></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div class="separator" style="clear: both;">Konfigurasi Common Emitter (CE) atau Emitor Bersama merupakan Konfigurasi Transistor yang paling sering digunakan, terutama pada penguat yang membutuhkan penguatan Tegangan dan Arus secara bersamaan. Hal ini dikarenakan Konfigurasi Transistor dengan Common Emitter ini menghasilkan penguatan Tegangan dan Arus antara sinyal Input dan sinyal Output. Common Emitter adalah konfigurasi Transistor dimana kaki Emitor Transistor di-ground-kan dan dipergunakan bersama untuk INPUT dan OUTPUT. Pada Konfigurasi Common Emitter ini, sinyal INPUT dimasukan ke Basis dan sinyal OUTPUT-nya diperoleh dari kaki Kolektor.</div></div></div></blockquote><div style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div style="font-family: arial; font-size: x-large; font-weight: bold;">
</div></div></div></div></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><span face="Arial,

Tahoma, Helvetica, FreeSans, sans-serif" style="background-color: white;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;">4) Op Amp - LM741</div></div></blockquote><div style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div><div class="separator" style="clear: both; text-align: center;"></div></div><div><div style="font-family: times; font-size: large;"><blockquote style="border: none; font-family: "Comic Sans MS"; font-size: medium; margin: 0px 0px 0px 40px; padding: 0px;">Op-Amp adalah salah satu dari bentuk IC Linear yang berfungsi sebagai Penguat Sinyal listrik. Sebuah Op-Amp terdiri dari beberapa Transistor, Dioda, Resistor dan Kapasitor yang terinterkoneksi dan terintegrasi sehingga memungkinkannya untuk menghasilkan Gain (penguatan) yang tinggi pada rentang frekuensi yang luas. Dalam bahasa Indonesia, Op-Amp atau Operational Amplifier sering disebut juga dengan Penguat Operasional.</blockquote></div></div></div></div></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;">Karakteristik penguat ideal adalah:</div></div></blockquote><div style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><p

class="MsoNormal" style="margin-left: 18pt;"></p><ul style="line-height: 1.4; margin: 0.5em 0px; padding: 0px 2.5em;"><li style="margin: 0px 0px 0.25em; padding: 0px;">Gain sangat besar (AOL >>). Penguatan open loop adalah sangat besar karena feedback-nya tidak ada atau RF = tak terhingga, sertapada rentang frekuensi yang luas.<li style="margin: 0px 0px 0.25em; padding: 0px;">Impedansi input sangat besar (Z_i >>). Impedansi input adalah sangat besar sehingga arus input ke rangkaian dalam op-amp sangat kecil sehingga tegangan input sepenuhnya dapat dikuatkan.<li style="margin: 0px 0px 0.25em; padding: 0px;">Impedansi output sangat kecil (Z_o <<).<p></p><div class="separator" style="clear: both; color: #424242; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: large; text-align: center;"></div></div></div></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div class="separator" style="clear: both; color: #424242; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: large;">Konfigurasi PIN LM741:</div></div></div></blockquote><div style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div class="separator" style="clear: both; font-family: times; font-size: large; text-align: center;">

</div><div class="separator" style="clear: both; color: #424242; text-align: center;"><div class="separator" style="clear: both; color: black; font-family: "Comic Sans MS";">

</div></div></div></div></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype";, Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div class="separator" style="clear: both; color: #424242; text-align: center;"><div class="separator" style="clear: both; text-align: left;">Spesifikasi:</div></div></div></div></blockquote><div style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype";, Palatino, serif; font-size: 15.4px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div class="separator" style="clear: both; color: #424242; text-align: center;"><div class="separator" style="clear: both; color: black; font-family: "Comic Sans MS";">

</div></div></div></div></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div class="separator" style="clear: both; color: #424242; text-align: center;"><div class="separator" style="clear: both; color: black; text-align: left;">Respons karakteristik kurva

I-O:</div></div></div></div></blockquote><div style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div><div class="separator" style="clear: both; color: #424242; text-align: center;"><div class="separator" style="clear: both; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: large;">

</div></div></div><div class="separator" style="clear: both; color: #424242; text-align: center;"><div class="separator" style="clear: both; color: black; text-align: left;">
</div></div></div></div></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both; text-align: left;"><div class="separator" style="clear: both; color: #424242; text-align: center;"><div class="separator" style="clear: both; color: black; text-align: left;"><b style="color: #424242;">5) Sensor

Touch

Merupakan sensor yang mendeteksi sentuhan. Sensor Sentuh ini pada dasarnya beroperasi sebagai sakelar apabila disentuh, seperti sakelar pada lampu, layar sentuh ponsel dan lain sebagainya. Sensor Sentuh ini dikenal juga sebagai Sensor Taktil.

Pin Out

WhatsApp Image 2022-07-06 at 2000.13.17.jpeg

WhatsApp Image 2022-07-06 at 2000.13.17.jpeg

[illegible]

[illegible]

[illegible]

"Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white;"><div style="font-family: Crushed; font-size: 26.4px; font-weight: 400; text-align: left;"><div class="separator" style="clear: both; color: #424242;">/div></div></div></blockquote></blockquote></blockquote></blockquote><div style="background-color: white; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; text-align: justify;"><h3 style="font-size: 14.52px; margin: 0px; position: relative;"> &~ Rain Sensor</h3><h3 style="font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; margin: 0px; position: relative;"><b style="font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif;"><div style="font-family: "Times New Roman"; font-size: 14.52px; font-weight: 400;"> &~ &~<div class="separator" style="clear: both; text-align: center;">a href="https://blogger.googleusercontent.com/img/b/R29vZ2xl/AVvXsEHU3JzwfZgAn-QtDXVfPyCF1DqCPgf6PBKzax4xr-1hJK9Q0rclyVI57kfrvQ5XrgQOIOFPYXHs-nz55WW68Rm42mlwxHTJTxDnNajOrLwpQBQZRPeQz5pGFgdIEOI-HTXX3l47KdXwQ5LGRFTS9ZPo6LbA_gAZJsQNnu4dwvx4udnlh58oIrADBw0/s700/rain%20sensor.webp" style="color: #cc6611; margin-left: 1em; margin-right: 1em; text-decoration-line: none;"></div>
<div class="separator" style="clear: both; text-align: center;">
</div></div></h3></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype", Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white;"><h3 style="font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; margin: 0px; position: relative;"><span style="font-size:

[illegible]

Output format: Digital switching output (0 and 1) and analog voltage output

With bolt holes for easy installation;

Small board PCB size: 3.2cm x 1.4cm;

Uses a wide voltage LM393 comparator

Pin Configuration

No.	Signal	Voltage
1.	VCC	5V DC
2.	GND	
3.	DO	high/low output
4.	AO	analog

Grafik Sensor

https://1.bp.blogspot.com/-taqLF-dyZ98/XgvpTYLcCKI/AAAAAAAAAx4/IPmusS0TVJwwUmFF_juqsFOf-gL_KIp4QCLcBGAsYHQ/s1600/grafik%2Bsensor%2Bhumidity%2B%2528impedansi%2529.JPG

https://1.bp.blogspot.com/-taqLF-dyZ98/XgvpTYLcCKI/AAAAAAAAAx4/IPmusS0TVJwwUmFF_juqsOf-gL_KIp4QCLcBGAsYHQ/s320/grafik%2Bsensor%2Bhumidity%2B%2528impedansi%2529.JPG

https://1.bp.blogspot.com/-cv7Unkb_PDK/XgvpTgHtQpl/AAAAAAAAAx8/f8PmnFksC340UPeV2OSwvjbo9SgsCo6ACLcBGAsYHQ/s1600/grafik%2Bsensor%2Bhumidity.JPG

rgb(238, 238, 238); box-shadow: rgba(0, 0, 0, 0.1) 1px 1px 5px; height: inherit; max-width: 100%; padding: 5px; position: relative;" width="320" /></div><div class="separator" style="background-color: white; clear: both; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15px; text-align: center;"></div><p class="auphi" style="background-color: white; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15px; line-height: 22.5px; text-align: justify; text-indent: 36pt;"><br style="text-indent: 0px;" /></p><div class="separator" style="background-color: white; clear: both; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15px; text-align: center;"></div><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><p class="auphi" style="background-color: white; font-size: 15px; line-height: 22.5px; text-indent: 36pt;">Grafik diatas merupakan invers output dari sensor hujan sebelum masuk ke converter digital</p></blockquote><p class="auphi" style="background-color: white; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15px; line-height: 22.5px; text-align: justify; text-indent: 36pt;"><br style="text-indent: 0px;" /></p><div class="separator" style="background-color: white; clear: both; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15px; text-align: center;"><img border="0" data-original-height="377" data-original-width="600" height="201" src="https://1.bp.blogspot.com/-uh7zOmT2Z0w/XgoeZTgLDZI/AAAAAAAAAc8/_rbuOihH6sQwFYWgBzLjg

[illegible]

text-decoration-line: none;"></div></blockquote></blockquote><p style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"></p><ul style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; line-height: 1.4; margin: 0.5em 0px; padding: 0px 2.5em; text-align: justify;"><li style="margin: 0px 0px 0.25em; padding: 0px;"> <b style="color: #424242; font-family: times; font-size: 14.52px;">Rangkaian setelah dijalankan : <p style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"></p><p style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"></p><blockquote style="border: none; color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; margin: 0px 0px 0px 40px; padding: 0px; text-align: justify;"><blockquote style="border: none; margin: 0px 0px 0px 40px; padding: 0px;"><div style="background-color: white; font-family: Arial, Tahoma, Helvetica, FreeSans, sans-serif; font-size: 14.52px;"></div></blockquote></blockquote><p style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"> </p><p style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; text-align: justify;"></p><ul style="color: #222222; font-family: Georgia, Utopia, "Palatino Linotype"; Palatino, serif; font-size: 15.4px; line-height: 1.4; margin: 0.5em 0px; padding: 0px 2.5em; text-align: justify;"><li style="margin: 0px 0px 0.25em; padding: 0px;"><span

Prinsip Kerja

1. Sensor Hujan.
2. Sensor Touch.
3. Sensor Sound

Pada saat test pin berlogika 1, yaitu pada saat mendeteksi adanya genangan, maka arus mengalir dan terbaca tegangan sebesar 5 volt lalu tegangan di perbesar di non inverting dengan rumus $V_{out} = ((R_f/R_{in}) + 1)V_{in}$. lalu diteruskan ke resistor dengan nilai 10k dan terbaca sebesar 0.85 volt lalu ke kaki base transistor. Dengan aktifnya transistor, maka ada tegangan dari power supply sebesar 12 volt menuju relay dan terbaca sebesar 0,85 diteruskan ke kaki kolektor transistor, kemudian menuju kaki emitor transistor dan diteruskan ke ground, sehingga relay menjadi aktif, maka penampung hujan pun bergerak dengan menggunakan motor yang diaktifkan lewat relay.

Apabila mendeteksi ada sentuhan maka logicstate berlogika 1 maka arus mengalir melalui resistor sebesar 5k dan terbaca tegangan sebesar 5 volt lalu dilanjutkan pada voltage follower dengan rumus $V_{out} = V_{in}$. lalu diteruskan dan terbaca sebesar 5 volt lalu ke kaki base transistor. Dengan aktifnya transistor, maka ada tegangan dari power supply sebesar 12 volt menuju relay dan terbaca sebesar 0,87 diteruskan ke kaki kolektor transistor, kemudian menuju kaki emitor transistor dan diteruskan ke ground, sehingga relay menjadi aktif, maka penyiram tanaman bergerak dengan menggunakan motor yang diaktifkan lewat relay.

Pada saat test pin berlogika 1, yaitu pada saat mendeteksi adanya suara dari hama, maka arus mengalir dan terbaca tegangan sebesar 5 Volt lalu dilanjutkan pada dengan rumus $V_{out} = V_{in}$. Lalu diteruskan dan terbaca sebesar 5 Volt lalu ke kaki base transistor. Dengan aktifnya transistor, maka ada tegangan dari power supply sebesar 15 volt menuju relay dan terbaca sebesar 0,85 diteruskan ke kaki kolektor transistor, kemudian menuju kaki emitor transistor dan diteruskan ke ground, sehingga relay menjadi aktif. Dengan aktifnya relay maka buzzer pun menyala, yang berfungsi sebagai pengusir hama.

4. Video[Kembali]</div><div>
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5. Download File[Kembali]</div><h2 style="margin: 0px; position: relative;"><div class="post-body entry-content" itemprop="description articleBody" style="line-height: 1.4; position: relative; width: 564px;"><div style="line-height: normal; margin-bottom: 0cm; text-align: justify;"><div class="separator" style="clear: both; text-align: center;"><div class="separator" style="clear: both;"><div style="text-align: left;"><div class="separator" style="clear: both;"><div style="background-color: white; color: #222222; font-weight: 400;"><div></div></div><ul style="background-color: white; color: #222222; font-weight: 400; line-height: 1.4; margin: 0.5em 0px; padding: 0px 2.5em;"><li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;"> File HTML <li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;"> File Rangkaian Proteus klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Datasheet Op Amp klik disini <li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Datasheet Resistor klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Datasheet Rain Sensor klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Datasheet Touch Sensor klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Datasheet Sound Sensor klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Datasheet Relay <a

[>klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Datasheet LED >klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Datasheet Transistor NPN >klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Datasheet Dioda >klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Datasheet Buzzer >klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Datasheet Motor >klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Library Rain Sensor >klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Library Touch Sensor >klik disini<li style="font-weight: 700; margin: 0px 0px 0.25em; padding: 0px;">Library Sound Sensor >klik disini</div></div></div></div></div></div></div></div></h2>](https://drive.google.com/file/d/1L2iYoU4_eQG_kwpBiMQ2lfGJIIa6ZdNy/view?usp=sharing)