Practice TAsk 2 REPORT

«Parametric linear voltage regulator»

**Principles of Circuits**

Student:

Program of Automation

group AT

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# Work purpose: to study parameters of parametric linear voltage regulator

Goals:

1) Calculate parameters of Parametric linear voltage regulator

2) [Optional] Find transistor corresponding to the requirements

# Starting data

* **Source voltage amplitude, [V]** 59
* **Voltage ripple [V]:** 0.5
* **Voltage required on the load [V]:** 44.5
* **Load resistance, [Ω]:** 200
* **Base-emitter voltage [V]:** 0.7
* **Minimum current to be maintained through the Zener diode [mA]:** 1
* **Forward current gain of the transistor (IC/IB):** 140

# Calculations

1. Calculate load current

0.2225 [A]

1. Define required stabilized voltage

+ 45.2 [V]

1. [optional] Choose the transistor according to the requirements:

101 [V]

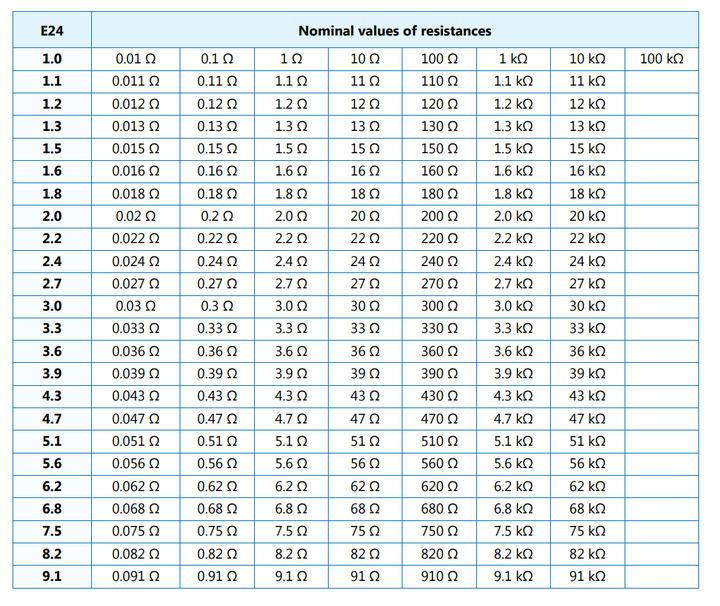
0.445 [A]

1. Choose based on the condition that current should flow through the transistor at a minimum input voltage

1397.0046

1201.7839

1. Choose correspondingly to E24 Series of standard resistor values.



E24=1.3

# Conclusions

Conclusions should contain:

1. Value of

=

1. [Optional] Which transistor correspond to the required parameters? Try to find one by yourself (extra point).

