Practice TAsk 2 REPORT

«Parametric linear voltage regulator»

**Principles of Circuits**

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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 and Zenner diode corresponding to the requirements

# Starting data

* **Source voltage amplitude, [V]** 35
* **Voltage ripple [V]:**  1
* **Voltage required on the load [V]:**  30.5
* **Load resistance, [Ω]:**  110
* **Base-emitter voltage [V]:**  0.7
* **Minimum current to be maintained through the Zener diode [mA]:**  2
* **Forward current gain of the transistor (IC/IB):**  110

# Calculations

1. Calculate load current

0.277 [A]

1. Define required stabilized voltage

+ 31.2 [V]

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

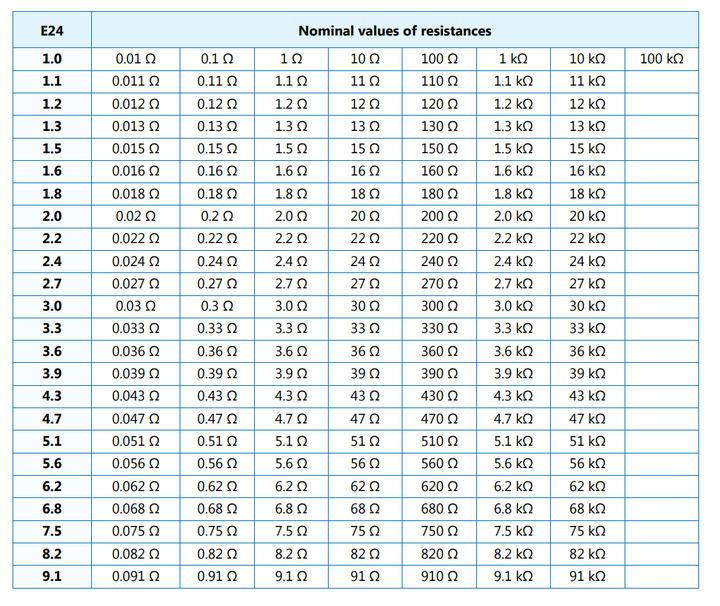
72 [V]

0.554 [A]

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

509.28

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



# Conclusions

Conclusions should contain:

1. Value of

470

2) [Optional] Which transistor correspond to the required parameters? Try to find one.