

Bipolar (npn) Transistor Questions

Question 1

The three connections on an npn bipolar transistor are:

- A. Base, Collector, Emitter
- B. Base, Collector, Source
- C. Gate, Collector, Base
- D. Gate, Drain, Source

Question 2

The arrowhead on the npn bipolar transistor symbol indicates the:

- A. Base
- B. Collector
- C. Drain
- D. Emitter
- E. Gate
- F. Source

Question 3

A bipolar transistor is a:

- A. current operated device
- B. power operated device
- C. resistance operated device
- D. voltage operated device

Question 4

The minimum voltage required to turn on a bipolar transistor is:

- A. 0.0V
- B. 0.7V
- C. 3.0V
- D. 5.0V

Question 5

The symbol for the current gain of a bipolar transistor is:

- A. G
- B. I_B
- C. I_C
- D. h_{FE}

Question 6

A bipolar transistor, used as a transducer driver, has a Base current of 0.05 A and a Collector current of 2.5 A.

The current gain of the transistor is:

- A. 25
- B. 50
- C. 125
- D. Undetermined

Question 7

A bipolar transistor, used as a transducer driver, has a Base current of 0.10 A and a current gain of 25.

The maximum Collector current is:

- A. 0.1 A
- B. 2.5 A
- C. 25 A
- D. 250 A

Question 8

A bipolar transistor, used as a transducer driver, has a Collector current of 200 mA and a current gain of 400.

The minimum Base current is:

- A. 0.5 mA
- B. 2 mA
- C. 200 mA
- D. 400 mA

Question 9

A bipolar transistor has a Base current of 8 mA provided from a logic gate with an output voltage of 6 V.

An appropriate Base resistor would be:

- A. 90 Ω
- B. 650 Ω
- C. 750 Ω
- D. 1300 Ω

Question 10

A bipolar transistor with a current gain of 75 has a collector current of 2 A. If the transistor is controlled from a 5 V logic gate, what base resistor should be used?

- A. 190 Ω
- B. 180 Ω
- C. 170 Ω
- D. 160 Ω

Answers

1. A
2. D
3. A
4. B
5. D
6. B
7. B
8. A
9. B
10. D

Website

http://www.pfnicholls.com/Electronics_Resources/QuestionIndex.html

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