

4.1.09-15 Characteristic curves of semiconductors with FG-Module



What you can learn about ...

- Semiconductor
- P-n junction
- Energy-band diagram
- Acceptors
- Donors
- Valence band
- Conduction band
- Transistor
- Operating point

Principle:

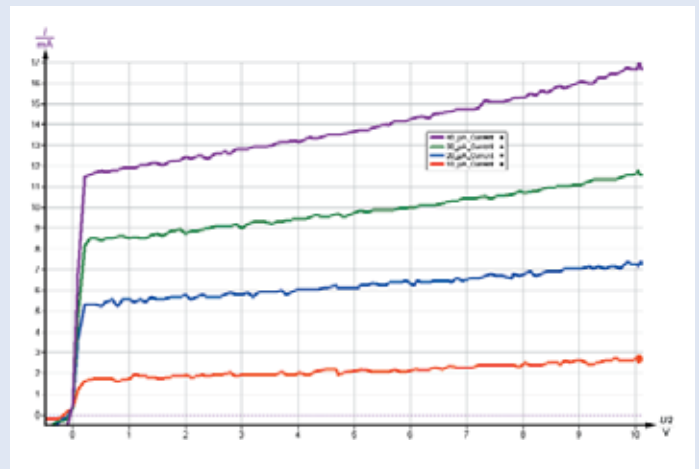
Determine the current strength flowing through a semi-conducting diode.

Determine the collector current with the collector voltage for various values of the base current intensity.

What you need:

Cobra3 BASIC-UNIT	12150.00	1
Power supply 12V/2A	12151.99	2
Data cable 2 x SUB-D, plug/socket, 9 pole	14602.00	1
Software Cobra3 PowerGraph	14525.61	1
Measuring module Function Generator	12111.00	1
Digital multimeter 2010	07128.00	1
Potentiometer 1 k Ω , 0.4W, G2	39103.04	1
Plug-in board 4 mm plugs	06033.00	1
Transistors BC-337/40, in G3 casing	39127.20	1
Carbon resistor 47 k Ω , 1W, G1	39104.38	1
Silicon diode 1 N 4007, G1	39106.02	1
Silicon diode 1 N 4148, G1	39106.03	1
Connecting cable, 4 mm plug, 32 A, red, $l = 25$ cm	07360.01	2
Connecting cable, 4 mm plug, 32 A, blue, $l = 25$ cm	07360.04	2
Connecting cable, 4 mm plug, 32 A, red, $l = 50$ cm	07361.01	2
Connecting cable, 4 mm plug, 32 A, blue, $l = 50$ cm	07361.04	3

Complete Equipment Set, Manual on CD-ROM included
 Characteristic curves of semiconductors
 with FG-Module P2410915



Collector current/voltage characteristic of BC337 transistor.

Tasks:

1. To investigate the dependence of the current strength flowing through a semi-conducting diode.
2. To determine the variations of the collector current with the collector voltage for various values of the base current intensity.