

Short description of the measurements
with the Transistor Tester
Version 1.11k

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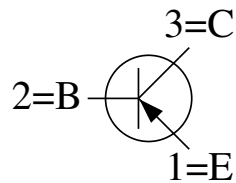
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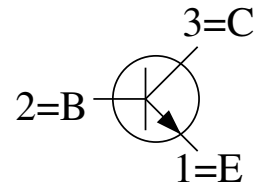
Chapter 1

Beschreibung der BJT-Messungen

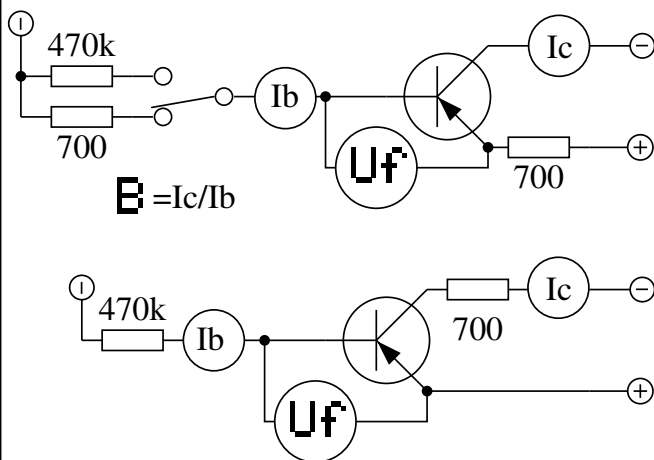
BC640



BC639

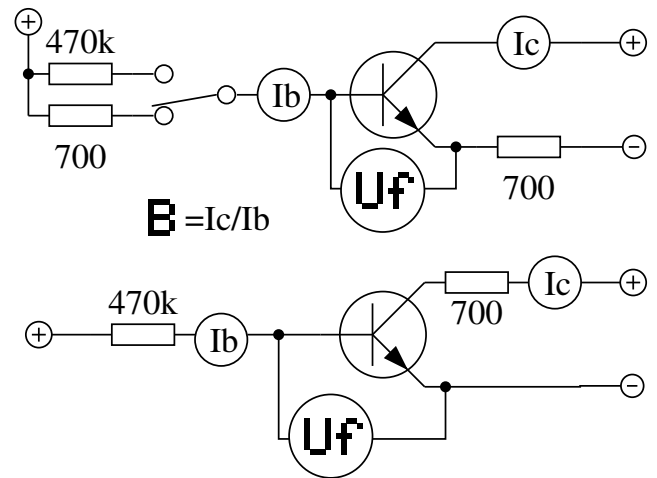


PNP 123=EBC
 $B=185$ $U_f=607\text{mV}$



(a) PNP

NPN 123=EBC
 $B=216$ $U_f=632\text{mV}$



(b) NPN

Figure 1.1. Bipolar Silizium transistors

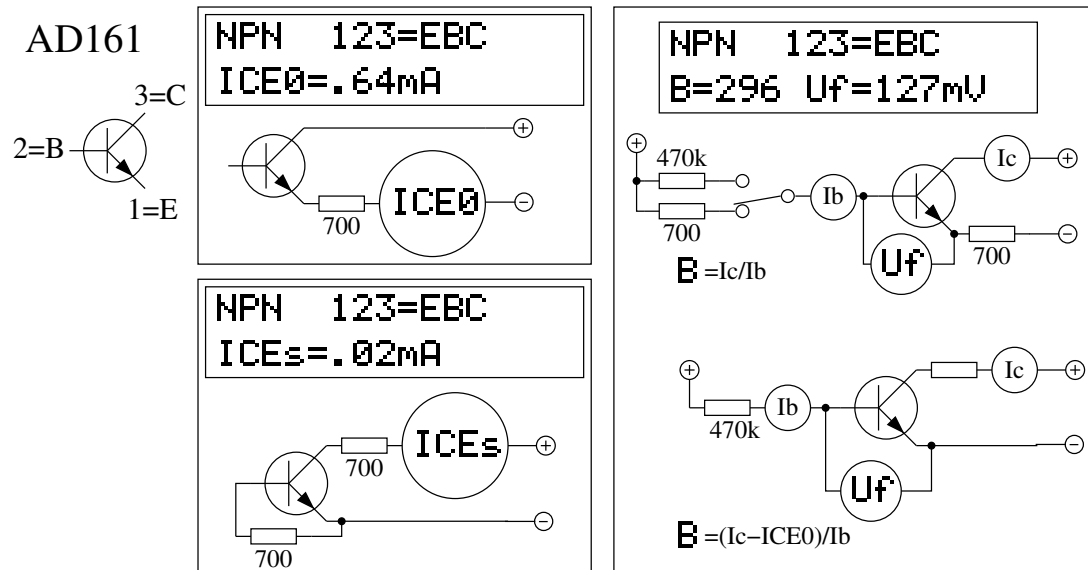


Figure 1.2. NPN Germanium transistor

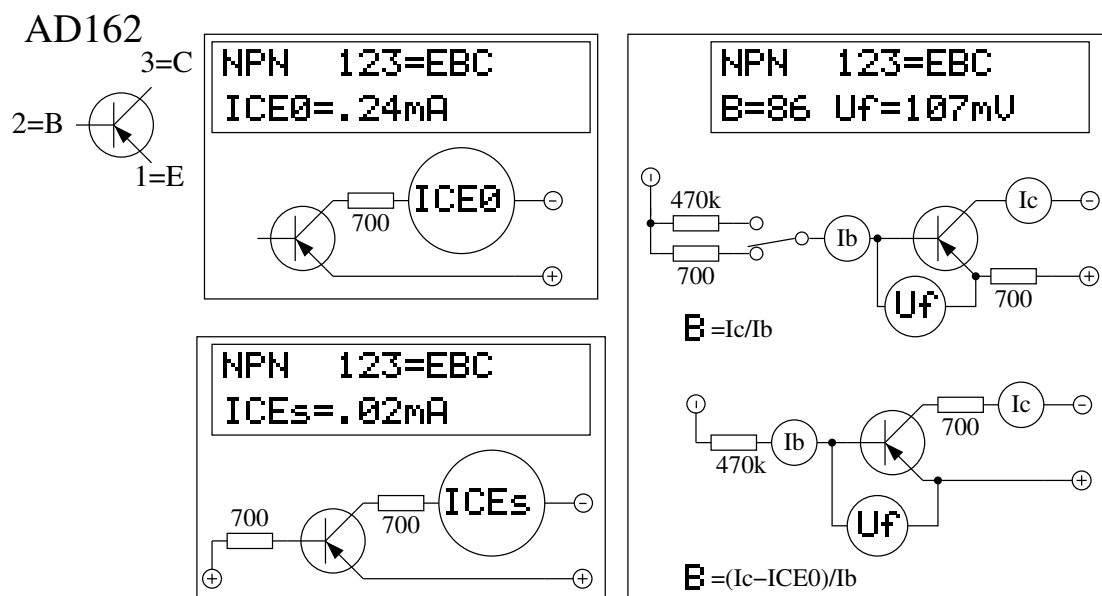
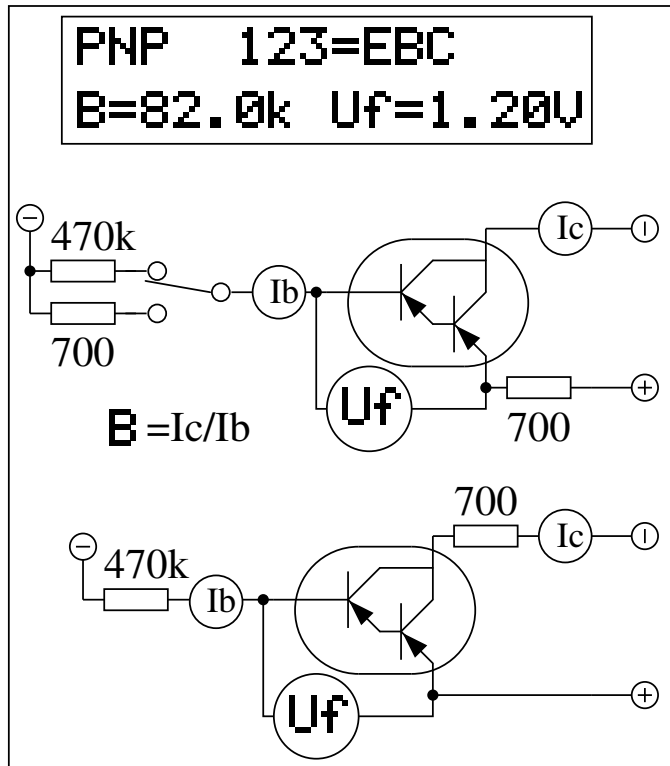
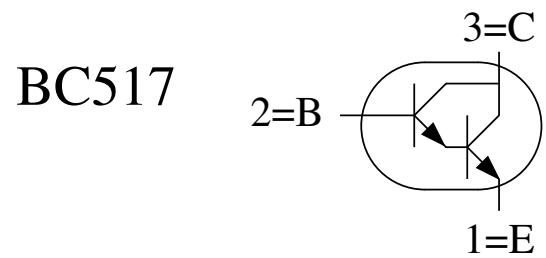
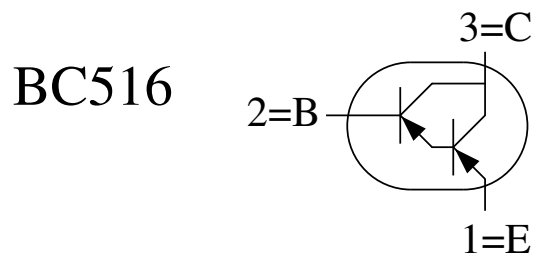
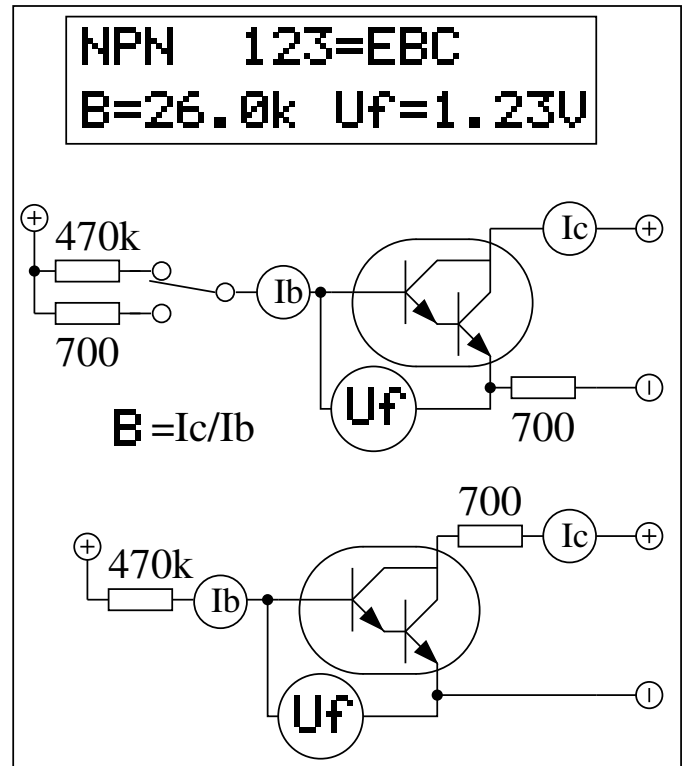


Figure 1.3. PNP-Germanium-Transistor



(a) PNP



(b) NPN

Figure 1.4. Silizium Darlington transistors

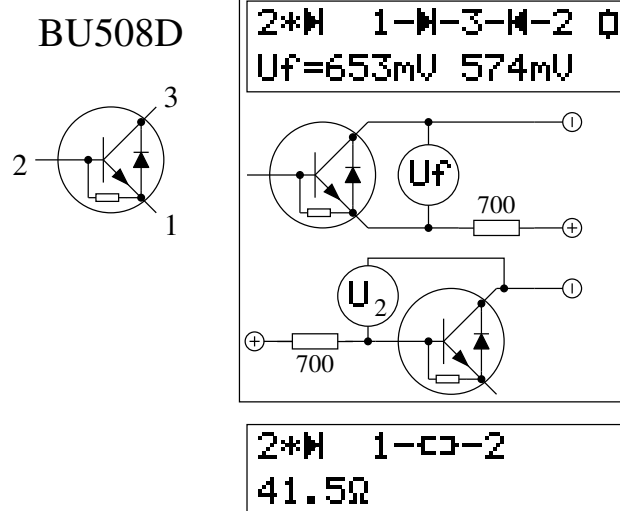
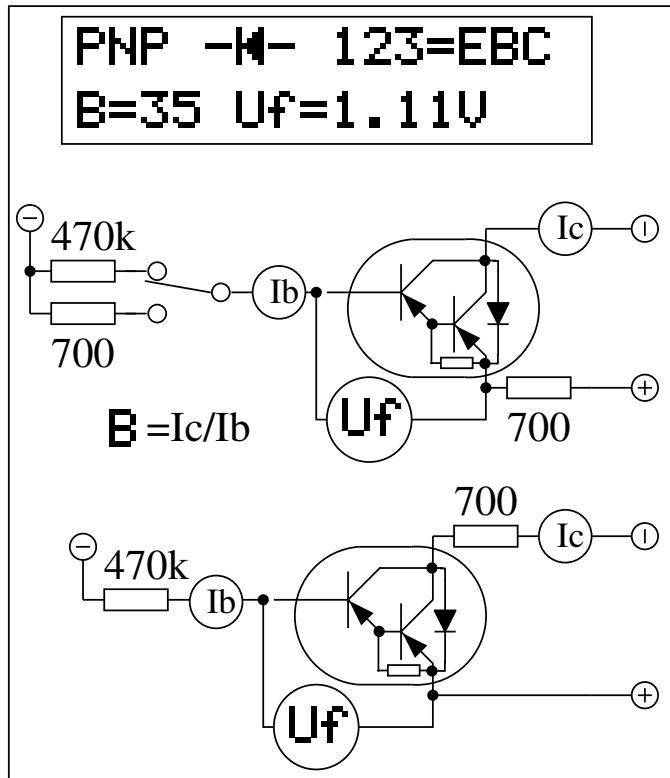
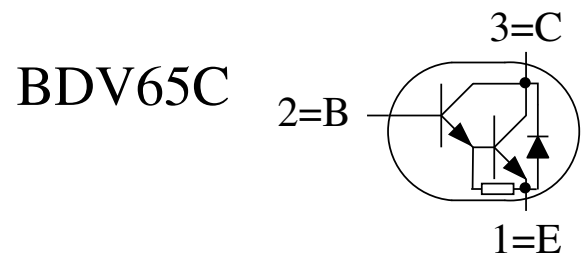
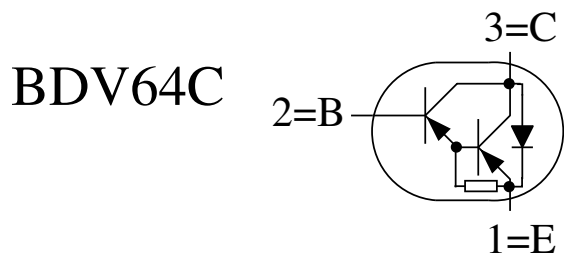
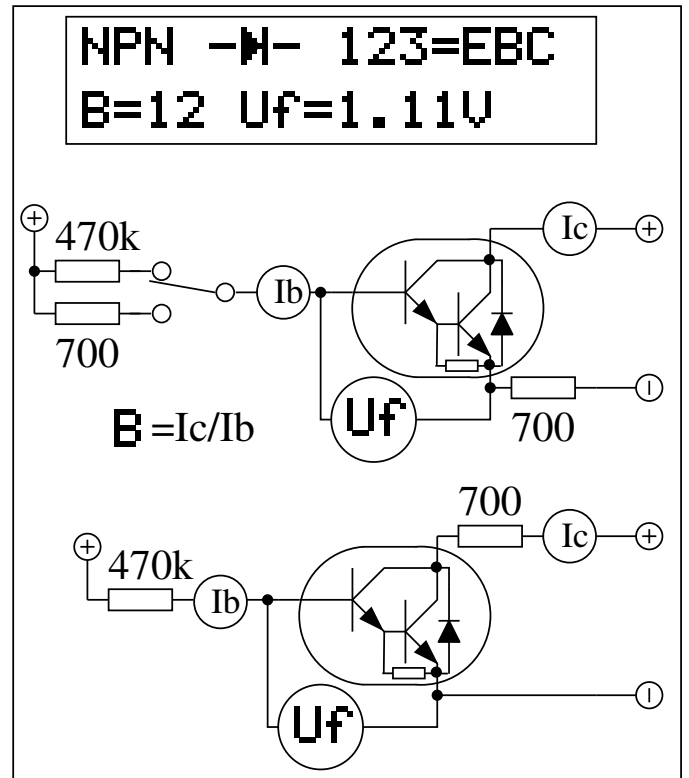


Figure 1.5. NPN-Transistor with diode and resistor



(a) PNP

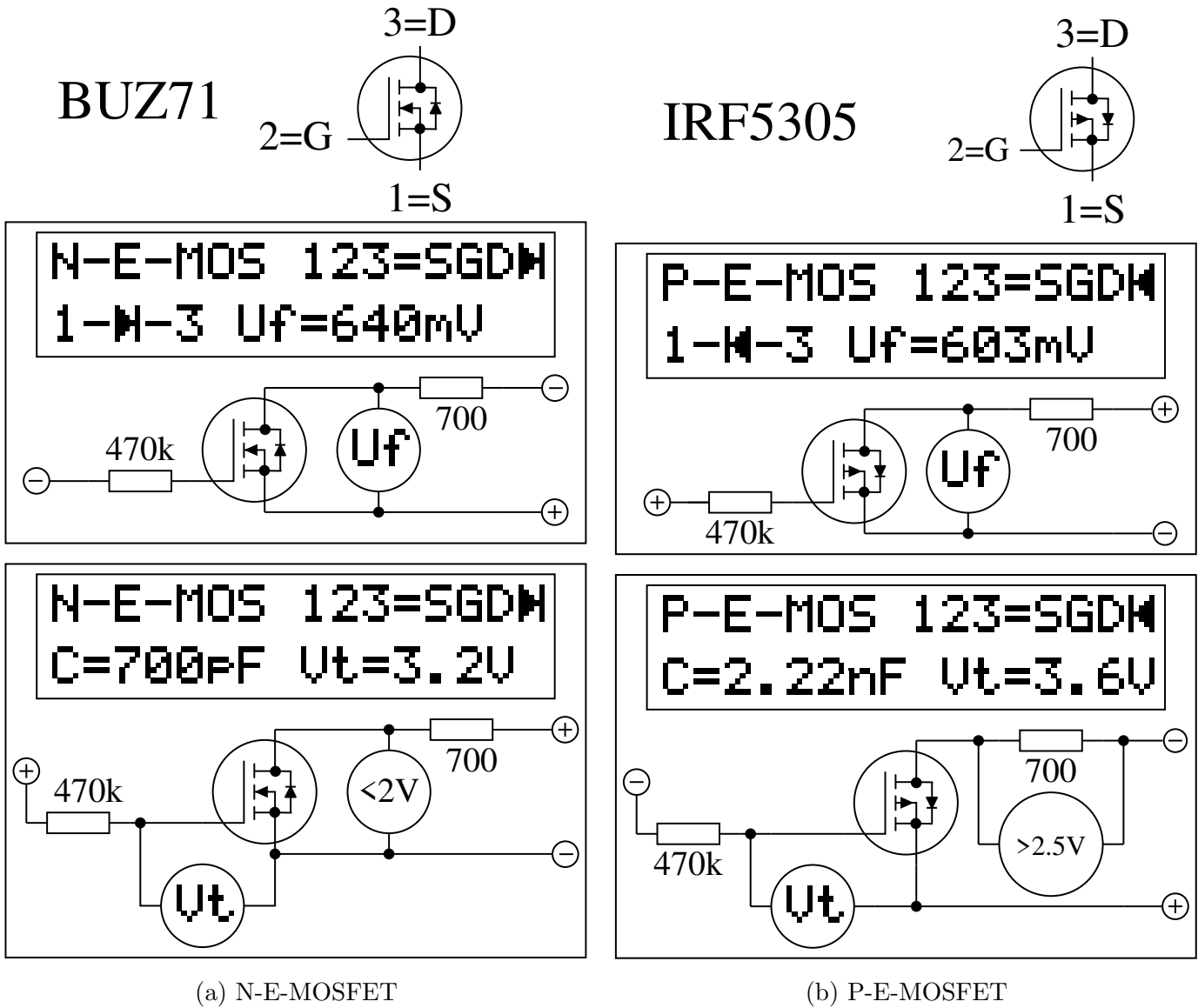


(b) NPN

Figure 1.6. Silizium Darlington transistors

Chapter 2

Description of MOSFET measurements



N-E-MOS 123=SGDM

C=700pF Ut=3.2V

470k

700

Ut

<2V

P-E-MOS 123=SGDM

C=2.22nF Ut=3.6V

470k

700

Ut

>2.5V

(a) N-E-MOSFET

(b) P-E-MOSFET

Figure 2.1. Enhancement MOSFET transistors

BSS169

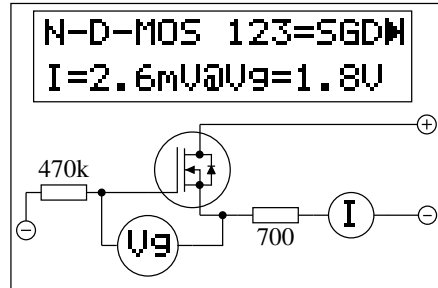
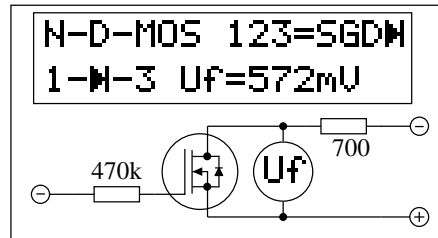
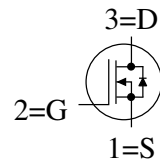
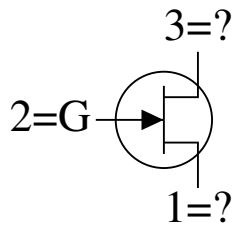
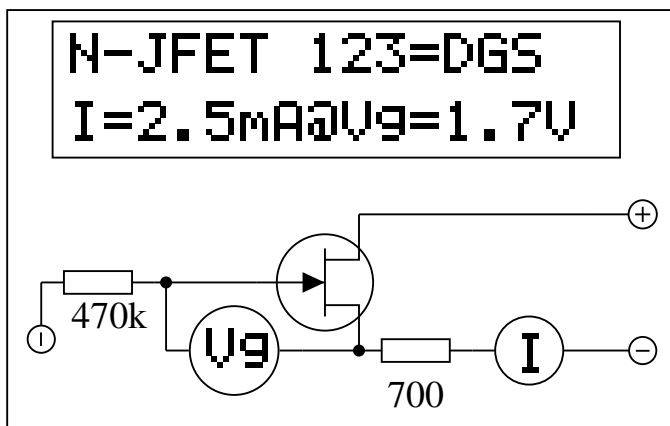
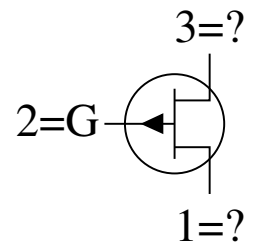


Figure 2.2. N-D-MOSFET

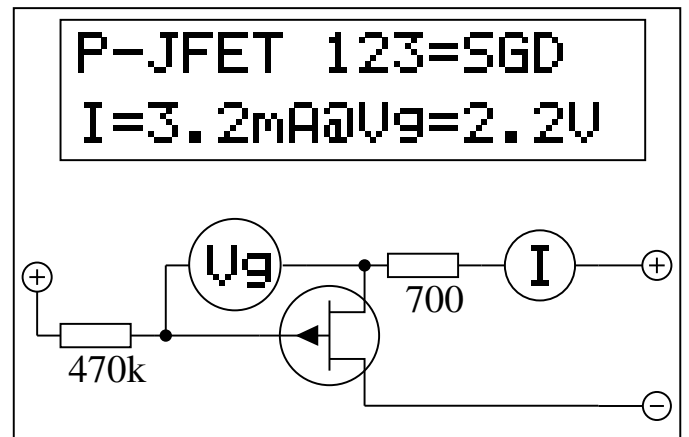
BF245



J175



(a) N-JFET



(b) P-JFET

Figure 2.3. JFET transistors

Bibliography

- [1] Markus Frejek *AVR-Transistortester*,. Embedded Projects Journal, 11. Ausgabe, 2011
- [2] Atmel Corporation *8-bit AVR with 8KBytes In-System Programmable Flash - ATmega8(L)*,. Manual, 2486Z-AVR-02/11, 2011
- [3] Atmel Corporation *8-bit AVR with 4/8/16/32KBytes In-System Programmable Flash - ATmega48 - ATmega328*,. Manual, 8271D-AVR-05/11, 2011
- [4] http://en.wikibooks.org/wiki/LaTeX_LaTeX_documentation,. Guide to the LaTeX markup language, 2012
- [5] Wikipedia http://de.wikipedia.org/wiki/Equivalent_Series_Resistance *Erluterung zum ESR*. Normung und Ersatzschaltbild eines Kondensators, 2012
- [6] <http://www.xfig.org/userman> *Xfig documentation*,. Documentation of the interactive drawing tool xfig, 2009
- [7] <http://docs.gimp.org/2.6/de> *gimp documentation*. Documentation of the GNU Image Manipulation Program, 2010
- [8] <http://www.mikrocontroller.net/articles/AVR-Transistortester> *Online documentation of the Transistor Tester*, Online Article, 2009-2011
- [9] <http://www.mikrocontroller.net/articles/AVRDUDE> *Online documentation of the avrdude programmer interface*, Online Article, 2004-2011
- [10] <http://www.mikrocontroller.net/topic/131804> *Thread von Markus F.*, Forum thread, 2009
- [11] http://www.mikrocontroller.net/articles/AVR_Transistortester *Short decription of the TransistorTester von Karl-Heinz K.*, Online Article, 2012
- [12] <http://www.mikrocontroller.net/topic/248078> *Thread von Karl-Heinz K.*, Thread and early Software versions, 2012