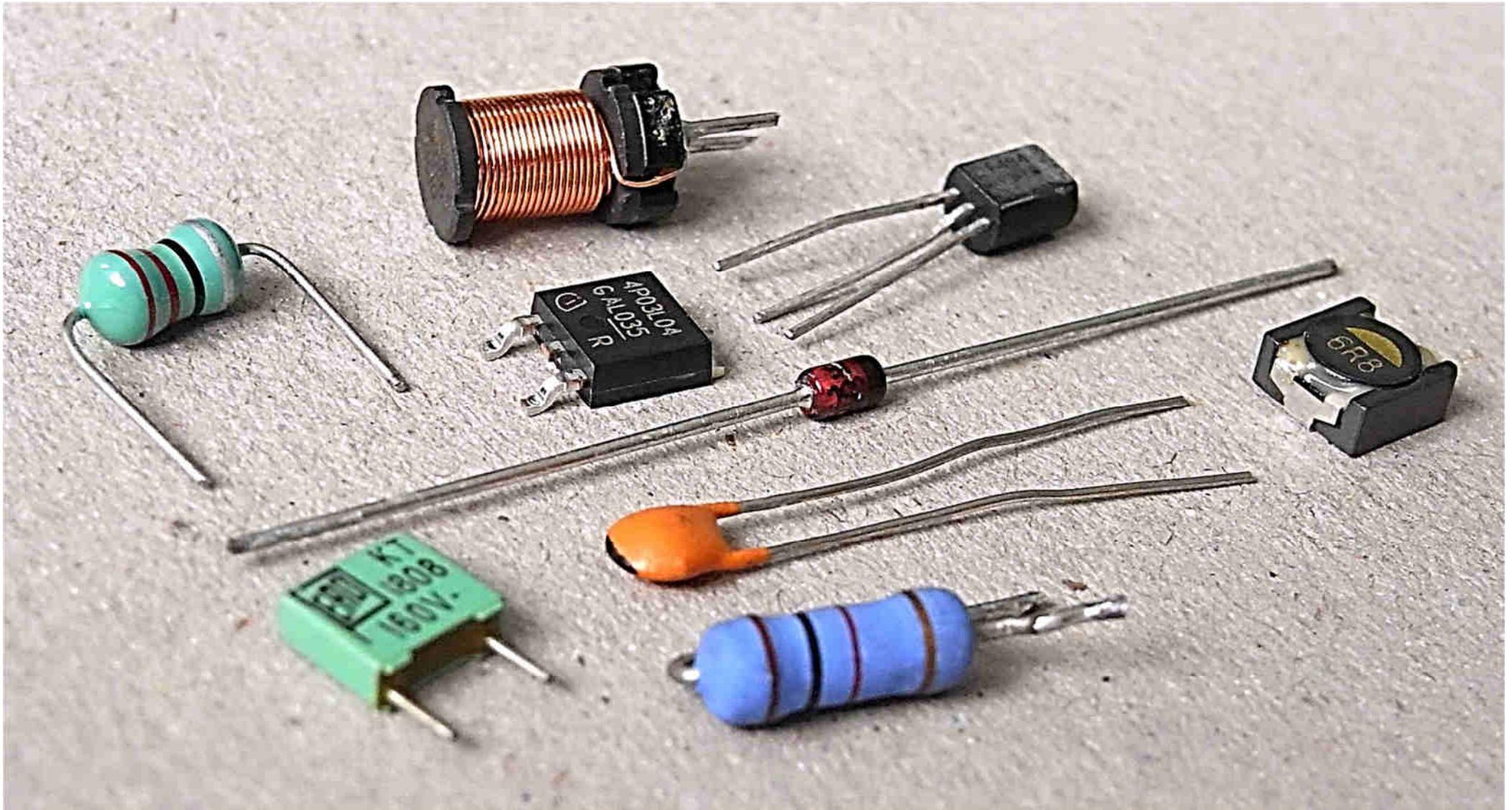


Kleine Mess- und Testgeräte für RLC und Halbleiter

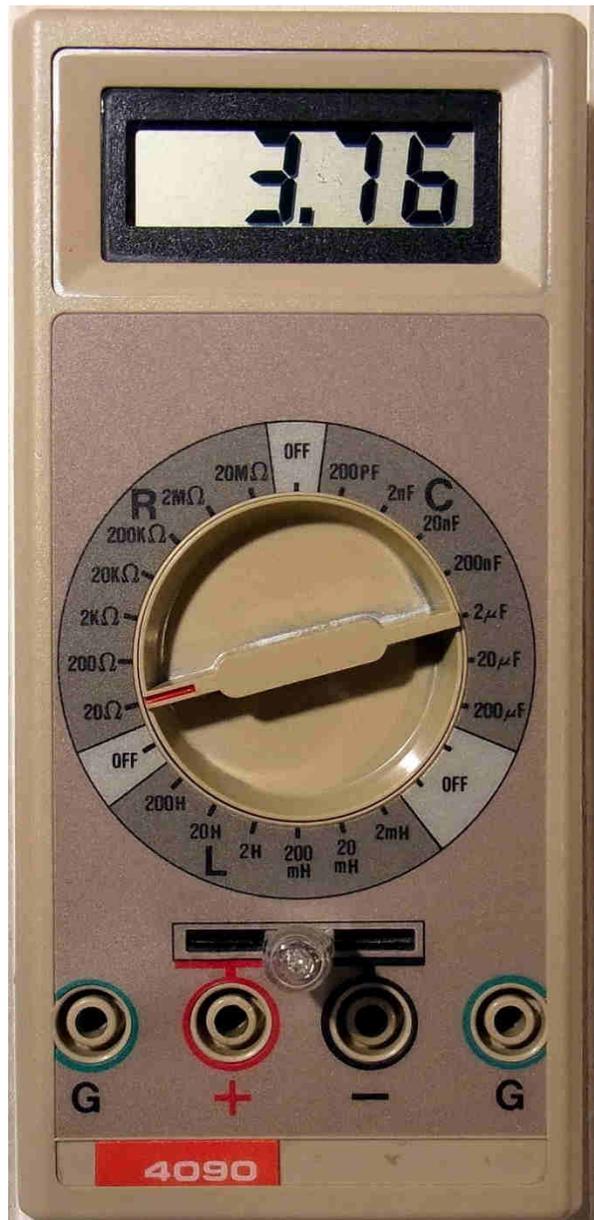


Klassisches RLC-Messgerät

z.B. ESI Model 252, 253... gebaut seit 1979 bis heute



RLC Hand-Messgerät



Halbleiter-Analysator

(automatische Erkennung verschiedener Halbleiterbauteile,
auch Versionen mit Schnittstelle zur Erfassung von Kennlinien)





NPN Silicon
Transistor

RED GREEN BLUE
Coll Base Emit

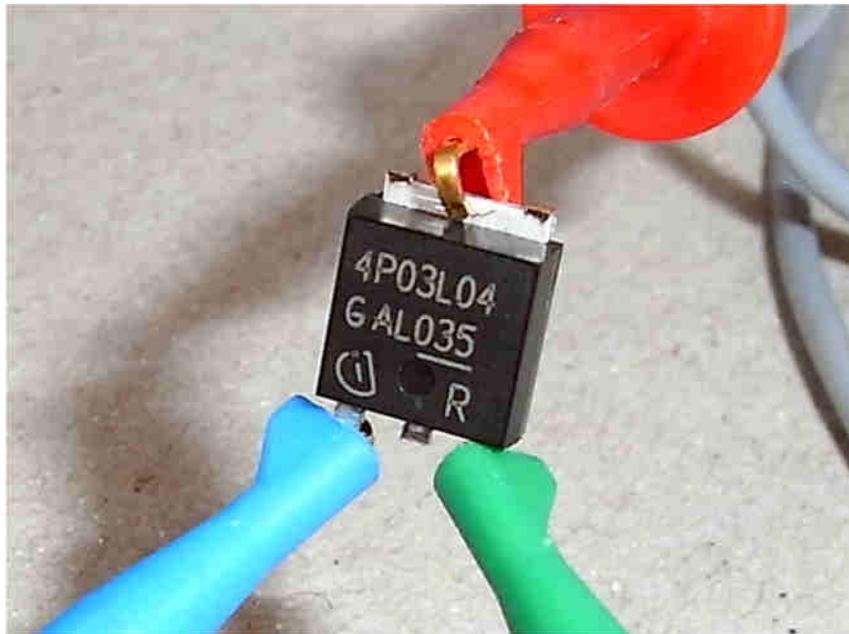
Current gain
 $H_{FE}=113$

Test current
 $I_C=2.50\text{mA}$

Base-Emitter V
 $V_{BE}=0.84\text{V}$

Test current
 $I_B=4.55\text{mA}$

Leakage current
 $I_C=0.00\text{mA}$



Enhancement mode
P-Ch MOSFET +

RED GREEN BLUE
Gate Srce Drn +

Gate threshold
 $V_{GS}=1.60V$ +

Test current
 $I_D=2.50mA$ +



RED GREEN BLUE
Anod Cath +

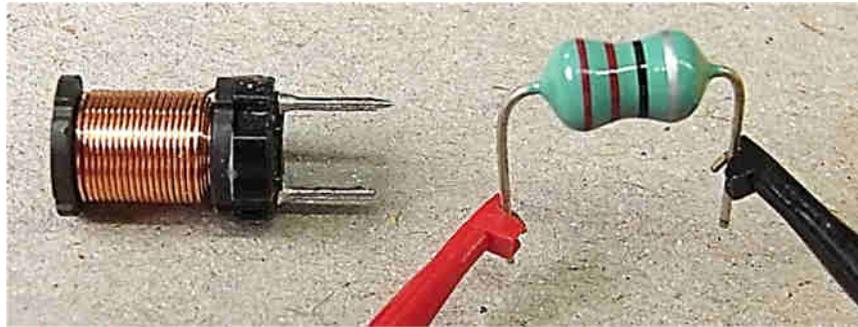
Forward voltage
D1 $V_F=0.27V$ +

Test current
D1 $I_F=5.18mA$ +

LCR-Analysator

(spezialisierte Tester je nach Anwendung,
z.T. auch ESR, Güte-/Verlustfaktor)



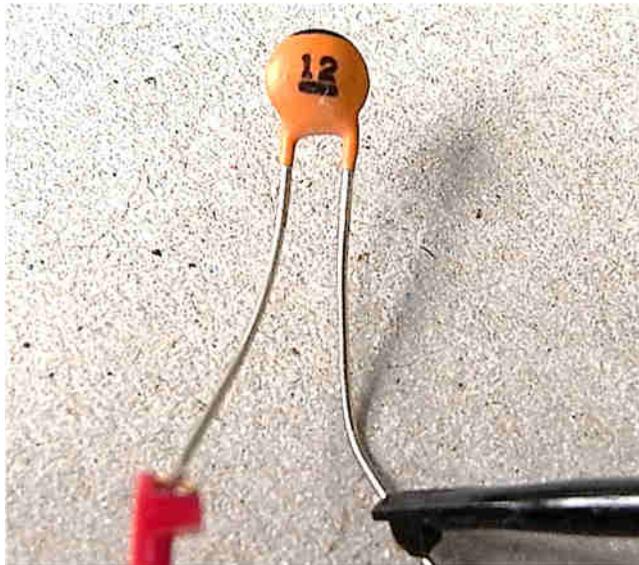


Inductance
19.7 μ H +

DC Resistance
0.0 Ω +

Test frequency
200kHz \pm

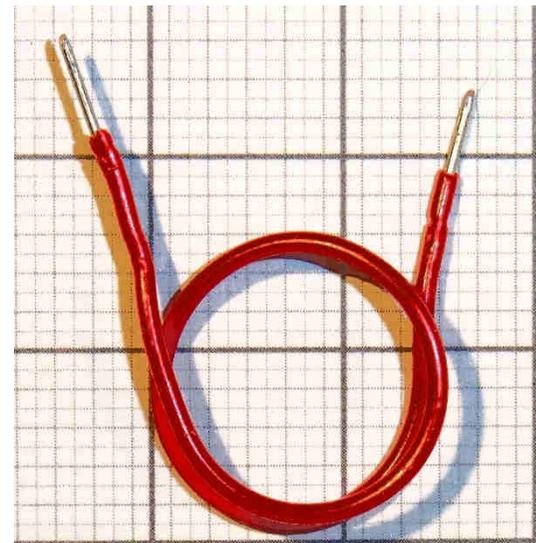
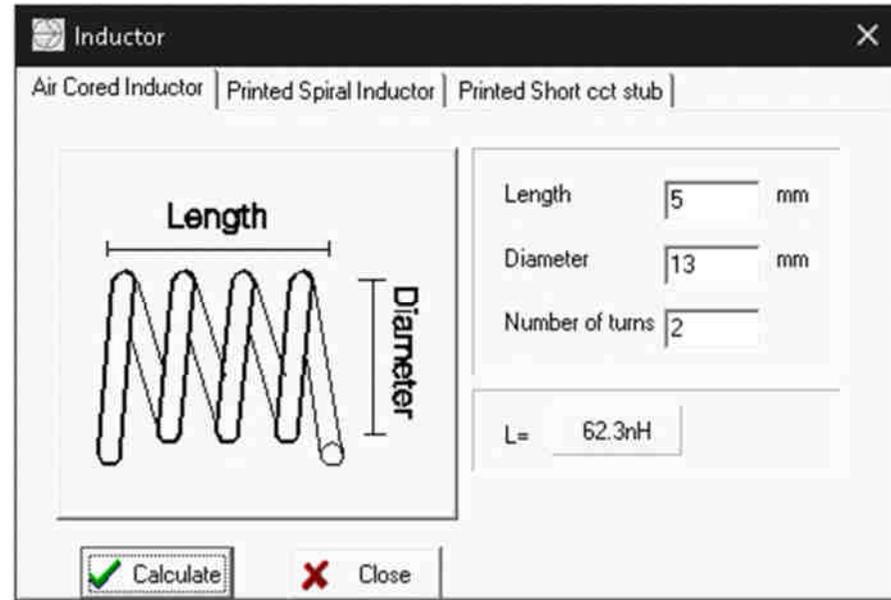
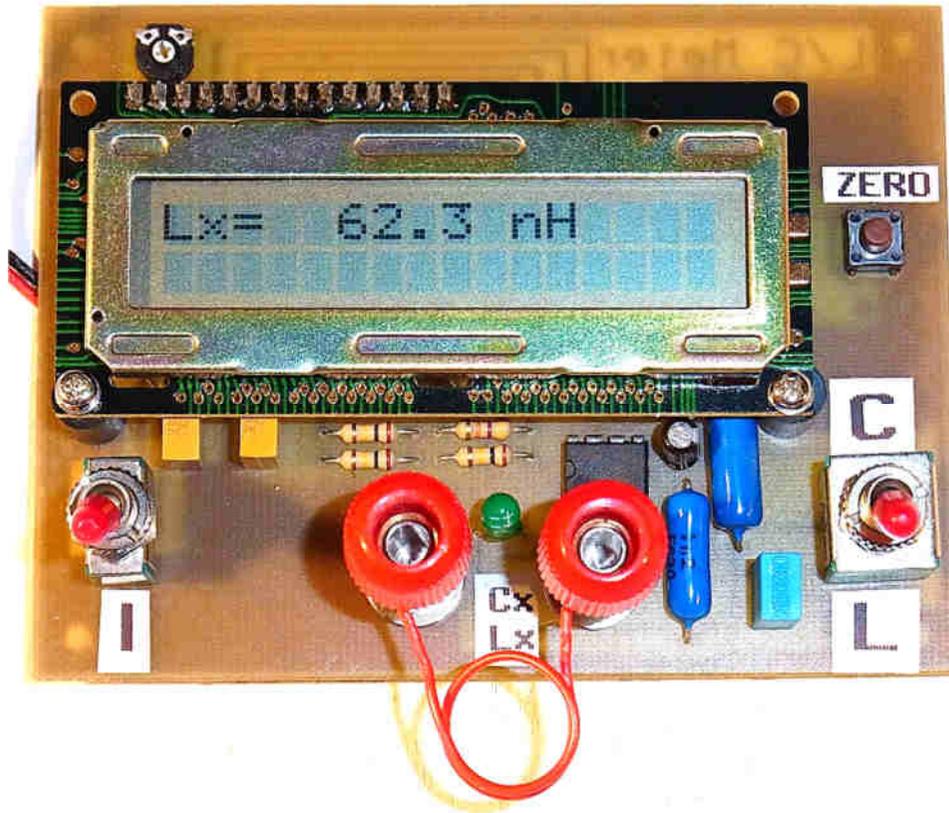
Resistance
986.8 Ω

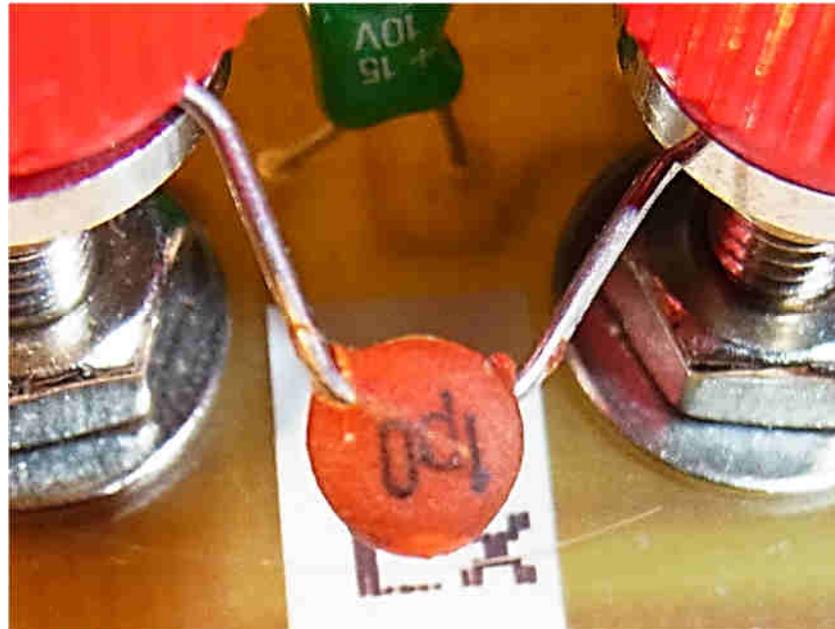
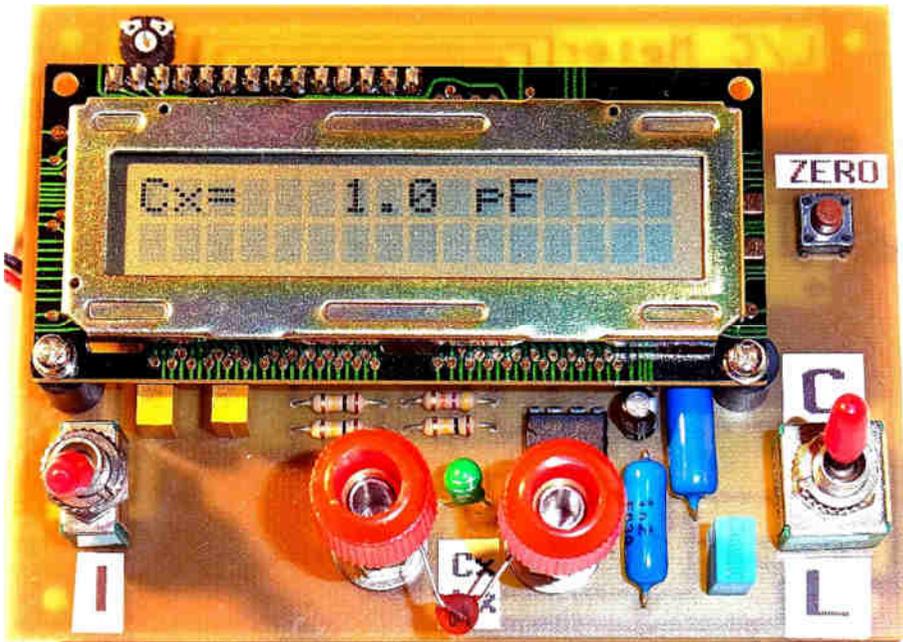
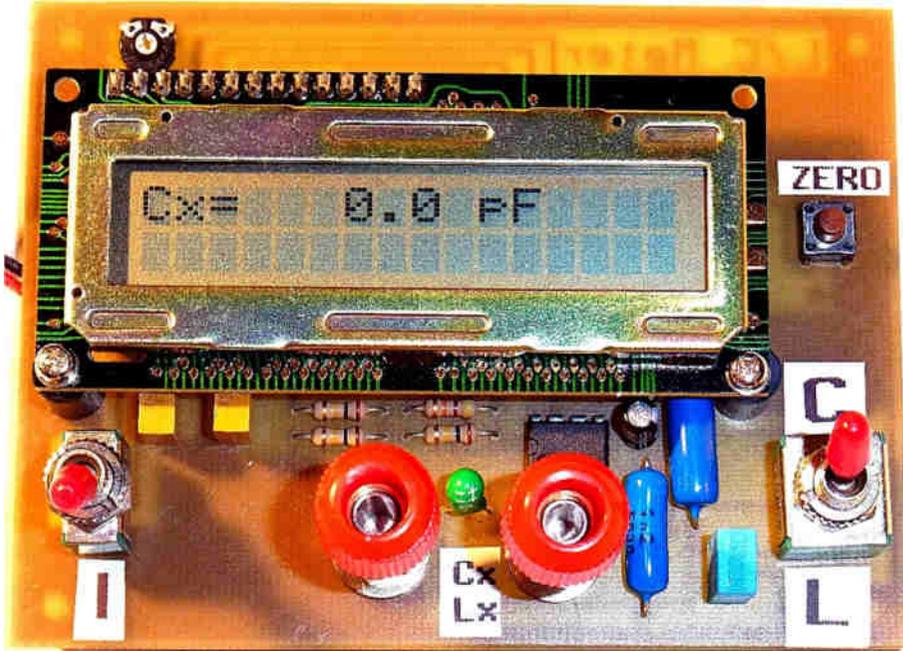


Capacitance
11.7pF +

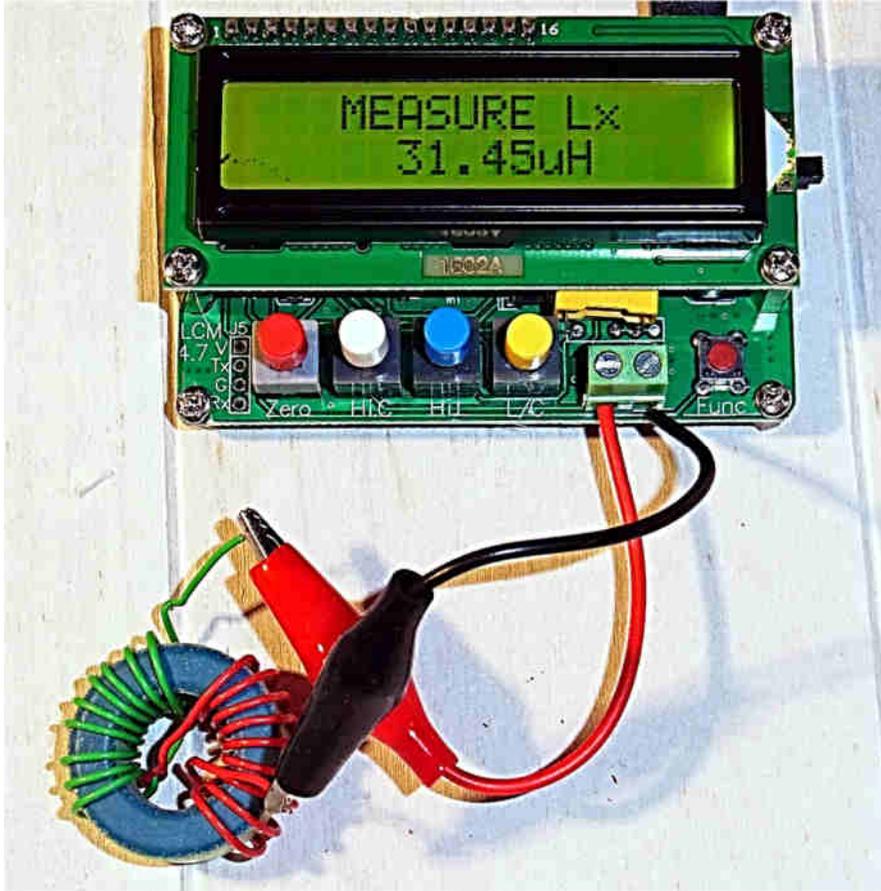
'LC-Meter' nach VK3BHR

(AADE und andere Bausätze und Nachbauten)

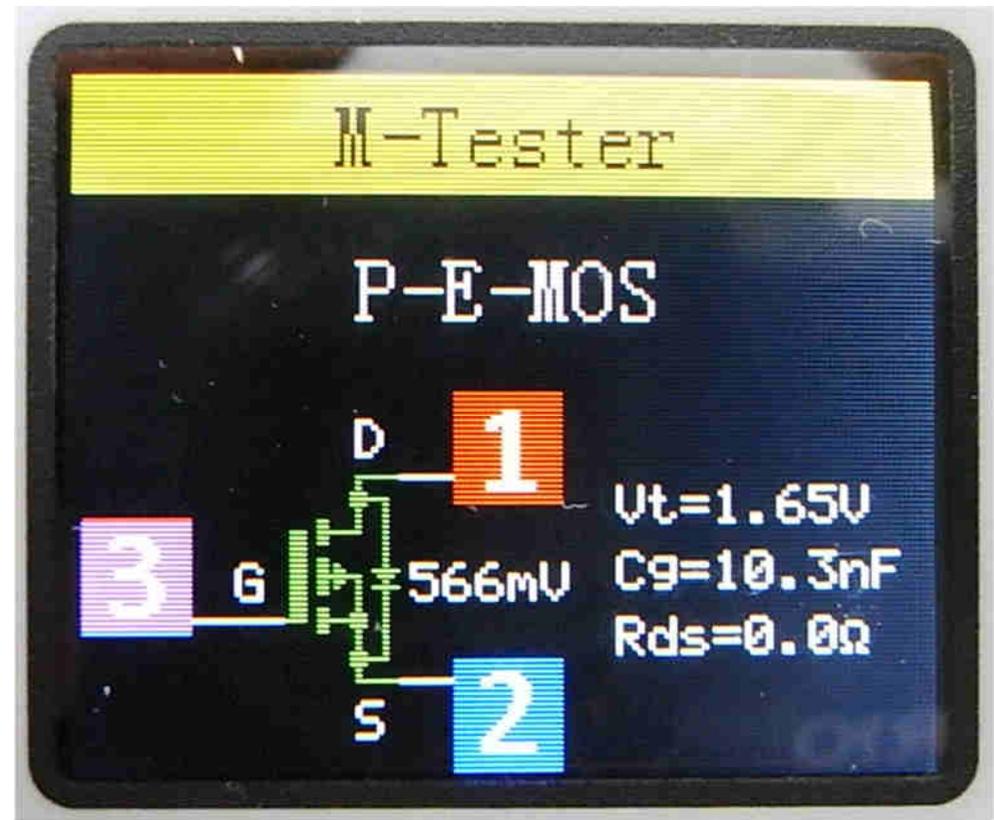
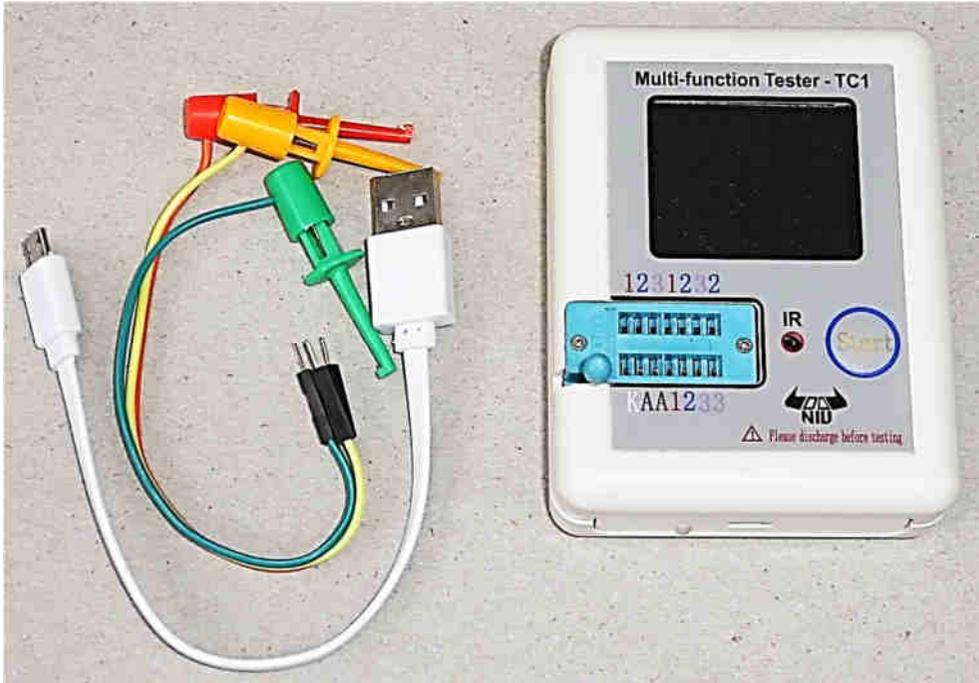


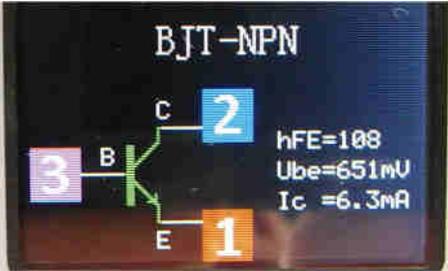
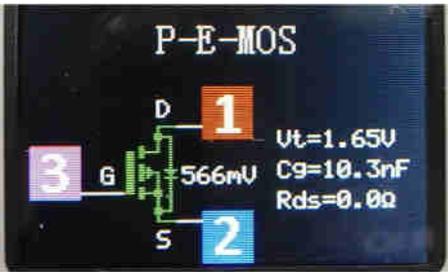
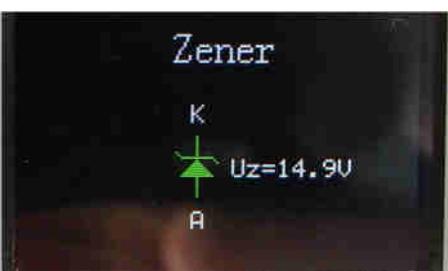


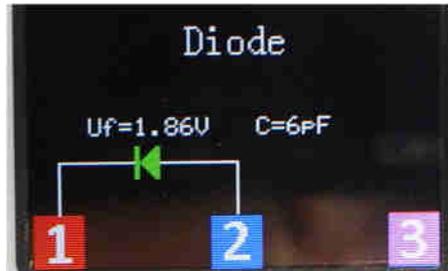
LCM 4.7 'LC-Meter' (China)



Multi-Tester TC1 (China)



bipolarer Tr.	 <p>BJT-NPN</p> <p>hFE=108 U_{be}=651mV I_c =6.3mA</p> <p>Terminal 1 (E), Terminal 2 (C), Terminal 3 (B)</p>
FET	 <p>P-E-MOS</p> <p>U_t=1.65V C₉=10.3nF R_{ds}=0.0Ω</p> <p>Terminal 1 (D), Terminal 2 (S), Terminal 3 (G)</p>
Si-Diode	 <p>Diode</p> <p>U_f=760mV C=50pF</p> <p>Terminal 1 (Anode), Terminal 2 (Cathode)</p>
Z-Diode	 <p>Zener</p> <p>U_z=14.9V</p> <p>Terminal 1 (A), Terminal 2 (K)</p>

C mit V-loss und ESR	 <p>Capacitor</p> <p>2337nF U_{loss}=1.4% ESR=2.5Ω</p> <p>Terminal 1, Terminal 2, Terminal 3</p>
L	 <p>Inductor</p> <p>0.17mH R=0.56Ω</p> <p>Terminal 1, Terminal 2, Terminal 3</p>
LED	 <p>Diode</p> <p>U_f=1.86V C=6pF</p> <p>Terminal 1, Terminal 2, Terminal 3</p>
Doppeldiode	 <p>2 Diodes</p> <p>U_f=293mV</p> <p>Terminal 1, Terminal 2, Terminal 3</p>

	esi / Tegam	VC4090	Peak	VK3BHR	LCM4.7 (China-LCR)	Multitester
Beispiel						
Bauart	Tischgerät, Vierleitertechnik	Handgerät	spezialisierte Tester je nach Anwendung	LP-Display-Modul oder Bausatz	LP-Display-Modul	Handgerät, graf. Anzeige, Akkubetrieb
Messung kleinster Werte (nH)	+			+		
spezielle Messungen (ESR, Güte, Verlustf. usw.)	+		+			+
Vielseitigkeit						+
Portabelbetrieb		+	+			+

(eigene, subjektive Einschätzung)