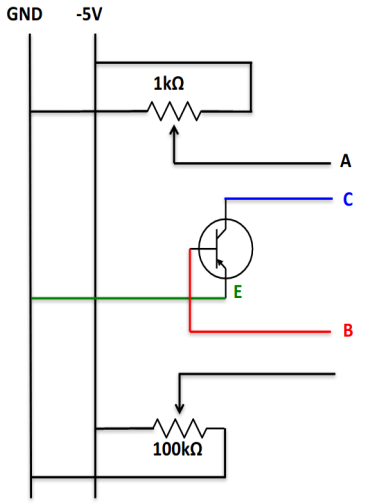
**Lamma Tommaso 0000881007 Turno II**

# Misura della caratteristica di uscita di un BJT P-N-P in configurazione a Emettitore comune

Il circuito utilizzato per la prova è il seguente :




Gli strumenti utilizzati nella prova sono:

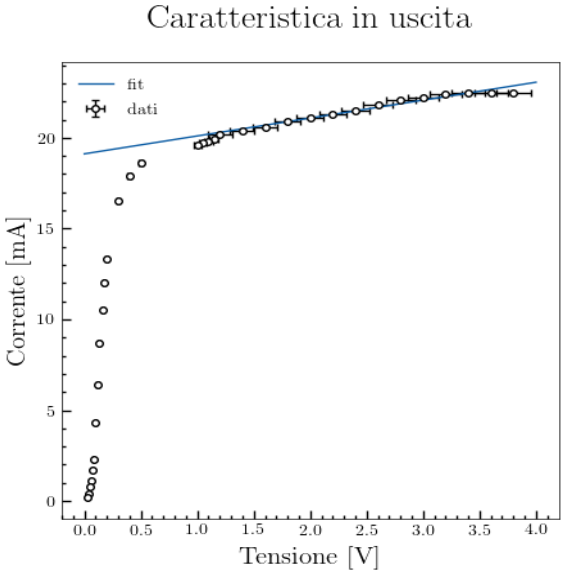
(i) Potenziometro da $1k\Omega$
(ii) Potenziometro da $100k\Omega$
(iii) Transistor BJT 2N3906(BU) (Si PNP)
(iv) Breadboard generica
(v) Oscilloscopio GOS-652 GW
(vi) Multimetro digitale FLUKE 77
(vii) Generatore di tensione continua IPS 3303 ISO-TECH

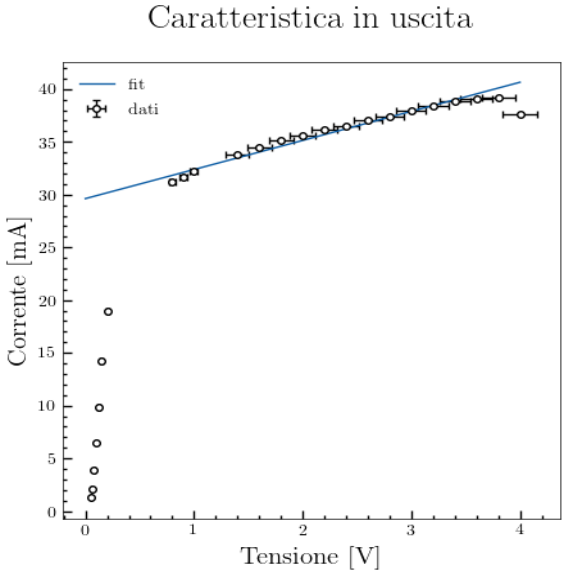
I dati misurati con corrente di base 100mA e 200mA sono:

| Corrente di base 100mA | | | | |
|---|---|---|---|---|
| **V**[V] | $\delta$V[V] | I[mA] | $\delta$I[mA] | fondoscala[$V$] |
| 3.8 | 0.2 | 22.5 | 0.3 | 1 |
| 3.6 | 0.1 | 22.5 | 0.3 | 1 |
| 3.4 | 0.1 | 22.5 | 0.3 | 1 |
| 3.2 | 0.1 | 22.4 | 0.3 | 1 |
| 3 | 0.1 | 22.2 | 0.3 | 1 |
| 2.8 | 0.1 | 22.1 | 0.3 | 1 |
| 2.6 | 0.1 | 21.8 | 0.3 | 1 |
| 2.4 | 0.1 | 21.5 | 0.3 | 1 |
| 2.2 | 0.1 | 21.3 | 0.3 | 1 |
| 2 | 0.1 | 21.1 | 0.3 | 1 |
| 1.8 | 0.1 | 20.9 | 0.3 | 1 |
| 1.6 | 0.1 | 20.6 | 0.3 | 1 |
| 1.4 | 0.1 | 20.4 | 0.3 | 1 |
| 1.2 | 0.1 | 20.2 | 0.3 | 1 |
| 1.15 | 0.04 | 19.9 | 0.3 | 0.2 |
| 1.1 | 0.04 | 19.8 | 0.3 | 0.2 |
| 1.05 | 0.04 | 19.7 | 0.3 | 0.2 |
| 1 | 0.04 | 19.6 | 0.3 | 0.2 |
| 0.5 | 0.02 | 18.6 | 0.3 | 0.1 |
| 0.4 | 0.02 | 17.9 | 0.3 | 0.1 |
| 0.3 | 0.01 | 16.5 | 0.2 | 0.1 |
| 0.2 | 0.01 | 13.3 | 0.2 | 0.1 |
| 0.18 | 0.01 | 12 | 0.2 | 0.1 |
| 0.16 | 0.01 | 10.5 | 0.2 | 0.1 |
| 0.13 | 0.01 | 8.7 | 0.1 | 0.1 |
| 0.12 | 0.01 | 6.4 | 0.1 | 0.1 |
| 0.1 | 0.01 | 4.3 | 0.06 | 0.1 |
| 0.08 | 0.003 | 2.3 | 0.03 | 0.02 |
| 0.07 | 0.003 | 1.7 | 0.03 | 0.02 |
| 0.06 | 0.003 | 1.1 | 0.02 | 0.02 |
| 0.05 | 0.003 | 0.8 | 0.01 | 0.02 |
| 0.04 | 0.002 | 0.4 | 0.006 | 0.02 |
| 0.03 | 0.002 | 0.2 | 0.003 | 0.02 |

| Corrente di base 200mA | | | | |
|---|---|---|---|---|
| **V**[V] | $\delta$V[V] | I[mA] | $\delta$I[mA] | fondoscala[$V$] |
| 4 | 0.2 | 37.6 | 0.6 | 1 |
| 3.8 | 0.2 | 39.2 | 0.6 | 1 |
| 3.6 | 0.1 | 39.1 | 0.6 | 1 |
| 3.4 | 0.1 | 38.8 | 0.6 | 1 |
| 3.2 | 0.1 | 38.4 | 0.6 | 1 |
| 3 | 0.1 | 37.9 | 0.6 | 1 |
| 2.8 | 0.1 | 37.4 | 0.6 | 1 |
| 2.6 | 0.1 | 37 | 0.6 | 1 |
| 2.4 | 0.1 | 36.5 | 0.5 | 1 |
| 2.2 | 0.1 | 36.1 | 0.5 | 1 |
| 2 | 0.1 | 35.6 | 0.5 | 1 |
| 1.8 | 0.1 | 35.1 | 0.5 | 1 |
| 1.6 | 0.1 | 34.5 | 0.5 | 1 |
| 1.4 | 0.1 | 33.8 | 0.5 | 1 |
| 1 | 0.04 | 32.2 | 0.5 | 0.2 |
| 0.9 | 0.03 | 31.7 | 0.5 | 0.2 |
| 0.8 | 0.03 | 31.2 | 0.5 | 0.2 |
| 0.2 | 0.01 | 18.9 | 0.3 | 0.1 |
| 0.15 | 0.01 | 14.2 | 0.2 | 0.1 |
| 0.12 | 0.01 | 9.9 | 0.1 | 0.1 |
| 0.1 | 0.004 | 6.5 | 0.1 | 0.02 |
| 0.08 | 0.003 | 3.9 | 0.06 | 0.02 |
| 0.06 | 0.003 | 2.1 | 0.03 | 0.02 |
| 0.05 | 0.003 | 1.3 | 0.02 | 0.02 |

I loro rispettivi grafici sono:




I risultati finali sono: