**Práctica 2 instrumentación**

**Vp = vT(Rp/RT) = 5v(1kohm / 2kohm) = 2.5v**

**IT = VT / RT = 5v / 2.5kohms = 2.5mA**

**P = V\*I = (2.5v)(2.5mA) = 6.25mW**

|  |  |  |
| --- | --- | --- |
|  | **Medido** | **Calculado** |
| **Voltaje VP** | **2.48** | **2.5v** |
| **Corriente i** | **2.5mA** | **2.5mA** |
| **Potencia en el POT** | **6.2mW** | **6.25mW** |

|  |  |  |
| --- | --- | --- |
| **Vpmin** | **0** | **Voltaje en punto de inicio** |
| **Vp1** | **0.34** | **Voltaje en el punto 0°** |
| **Vp2** | **2.02** | **Voltaje en el punto de 180°** |
| **Vpmáx** | **2.48** | **Voltaje en el punto final** |

**Calculos:**

Vrango = Vp2 – Vp1 = 2.02 – 0.34 = 1.68v

Vref = vp1 = 0.34

**Ganancia**

A = 3 / Vrango = 3 / 1.68 = 1.78

A = 1 + Rf/ R con R = 1kohm

Rf = 1K(1.78-1) = 780 ohms

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Angulo | Voltaje medido | Voltaje esperado | Error Absoluto | Error relativo |
| 0 | 0.26 | 0 | -0.26 | - |
| 30 | 0.65 | 0.5 | -0.15 | -30% |
| 45 | 0.89 | 0.75 | -0.14 | -18.66% |
| 60 | 1.10 | 1 | -0.10 | -10% |
| 90 | 1.5 | 1.5 | 0 | 0 |
| 120 | 1.90 | 2 | 0.10 | 5% |
| 135 | 2.10 | 2.25 | 0.15 | 6.66% |
| 150 | 2.3 | 2.5 | 0.2 | 8% |
| 180 | 2.75 | 3 | 0.25 | 8.33% |