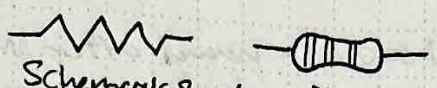
Resistor

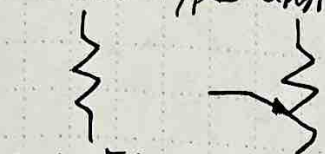
A resistor is an electrical component that resists the flow of electrical current.

Resistance is measured in units of ohms (Ω) and named after George OHm, whose law (OHM's Law) defines the fundamental relationship between voltage, current, and resistance.



Schematic Symbol Physical Component

Resistor Types and Package Styles



Carbon Film Resistor Variable Resistor

Determining Resistor Value

Color Code

Resistors are labeled with color bands that specify the resistor nominal value. The nominal value is the resistor ideal value

Measured Value

A DMM can be used to measure the actual value of a resistor

Example #1

$16 \times 10^2 \pm 5\%$

$= 1600\ \Omega \pm 5\%$

Example #2

$39 \times 10^5 \pm 5\%$

$3{,}900{,}000\ \Omega \pm 5\%$

Example #3

Brown, Green, Red, Gold

Signature:	Date: 8/30/24	Team Members:
Witness:	Date:	
Continued From Page #		Continued On Page #

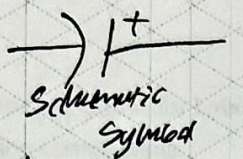
Title: Component Identification: Analog

Capacitor

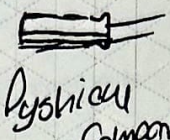
A Capacitor is an electronic component that can be used to store an electrical charge.

Capacitors are often used in electronic circuits as temporary energy-storing devices.

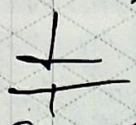
Capacitance is measured in Farads (F) and are named after Michael Faraday, a British chemist who contributed significantly to the study of electromagnetism.



Schematic Symbol

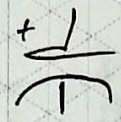


Physical Component



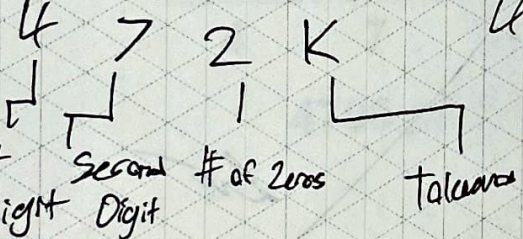
Ceramic Disc Capacitors

Mylar/Tantalum Monolithic Ceramic



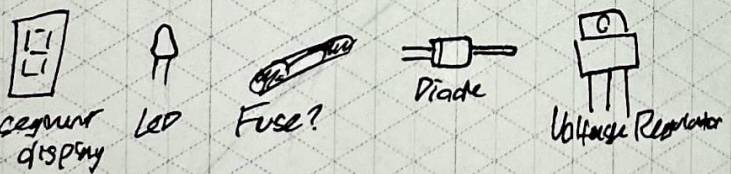
Electrolytic Capacitors

Capacitor Value Interpretation



4700pF ± 10%

Electronic Display Components



Signature:	Date: 8/30/24	Team Members:
Witness:	Date:	
Continued From Page # 5		Continued On Page #