

Circuit Basics

Physics

Current, voltage and resistance, and how they relate.

Series against parallel behaviour.

Quantity	Series	Parallel
Current	Same throughout	Splits between branches
Voltage	Divides across components	Same across each branch
Resistance	$R = R_1 + R_2$	$1/R = 1/R_1 + 1/R_2$
Adding a component	Total R increases	Total R decreases

Adding resistors in parallel always reduces total resistance below the smallest individual value.