

Parallel Resistor Value Calculator

Calculate the equivalent resistance of three fixed resistors in parallel for component-level circuit review. Final component selection still requires rated voltage, power, tolerance, and application checks.

Generated October 10, 2026

<https://www.elecatrix.com/circuits-components/resistor-parallel-value-calculator/>

Inputs

Input	Value	Unit
Resistance 1	30	ohm
Resistance 2	60	ohm
Resistance 3	90	ohm

Results

Result	Value	Unit
Equivalent resistance	16.3636	ohm
Total conductance	0.0611	S
Equivalent-to-smallest ratio	0.5455	x

Calculation details

Detail	Value	Unit
Calculation basis	Ideal fixed-resistance parallel arithmetic. Conductances add and equivalent resistance is the reciprocal of total conductance.	
Component boundary	This result does not model tolerance, temperature coefficient, resistor wattage, current sharing, voltage rating, parasitics, frequency behavior, or manufacturer data.	
U.S. project boundary	United States electrical estimate only. Verify resistor ratings, thermal conditions, equipment listings, manufacturer instructions, and the adopted local requirements before use.	

Formulas

$$G_{total} = (1/R_1) + (1/R_2) + (1/R_3)$$

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$$R_{eq} = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}}$$

$$Ratio = \frac{R_{eq}}{\min(R_1, R_2, R_3)}$$

Warnings and limitations

This parallel-resistance estimate uses ideal fixed-resistance arithmetic. It does not select resistor wattage or voltage rating, model tolerance or temperature, or verify current sharing, equipment, installation, manufacturer, or code requirements.