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Bring your Ideas into Reality



Can ChatGPT be used in circuit design? (/index.php/resources/tech-talk.htm)

See our TechTalk series on this topic. (/index.php/resources/tech-talk.htm)

Impedance Calculators

These calculators are used by Mantaro engineers and provided freely for your use. If you have any suggestions for improvement please email feedback@mantaro.com (mailto:feedback@mantaro.com).

Calculator Group: PCB Microstrip Structures Show All

Microstrip Zo

Width from Zo

Mitered Corner

Microstrip Zdiff

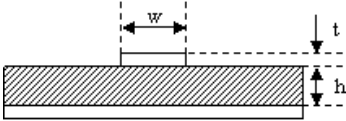
Zdiff from Zo

Embedded Zo

Microstrip Impedance From Zo Calculator

Note: valid for (w/h) from 0.1 to 3.0

Dimensional units: ☐mm ☒mils

Zo (target impedance, Ohms) =	50
t (trace thickness) =	1.7
h (dielectric thickness) =	7.87
er (relative dielectric constant) =	3.72
<div></div>	Calculate
w (trace width) =	13.880
Propagation Delay, Tpd (ps/inch) =	132.16
Inductance, L (nH/in) =	6.608
Capacitance, C (pF/in) =	2.64318
DC Resistance, Rdc (mOhm/in) =	28.697

Note: 1oz = 1.4mils = 0.03556mm

$$w = \frac{7.48h}{e^{\left(\frac{Z_0 \sqrt{\epsilon_r + 1.41}}{87}\right)} - 1.25t} \quad T_{pd} = 3.333 \sqrt{0.475 \cdot \epsilon_r + 0.67} \left(\frac{ns}{meter}\right)$$

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