



模块 2

活动：电压、电流和功率



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问题 1

如果一个 $1\text{ k}\Omega$ 的电阻与一个 $2\text{ k}\Omega$ 的电阻并联，它们的等效电阻是多少？

问题 2

如果一个 $1\text{ k}\Omega$ 的电阻与一个 $2\text{ k}\Omega$ 的电阻串联，它们的等效电阻是多少？

问题 3

如果一个 $1\text{ k}\Omega$ 的电阻两端加上 5V 电压，那么流过这个电阻的电流大小是多少？

问题 4

一个 $1\text{ }\mu\text{F}$ 的电容在 1 kHz 频率下的电抗是多少？

问题 5

一个 1 nF 电容两端加上一个频率为 1 MHz 、 1V 的交流电源，流过电容的电流是多少？

问题 6

一个 1 nF 电容两端加上一个 1V 的直流电源，流过电容的电流是多少？

问题 7

一个 $10\text{ k}\Omega$ 的电阻与一个 $0.1\text{ }\mu\text{F}$ 的电容串联，它们的截止频率是多少？在此频率下电容的电抗是多少？

问题 8

一个电阻与一个 $0.22\text{ }\mu\text{F}$ 的电容串联，如果需要截止频率位 1 kHz ，那么应该选择多大的电阻？

问题 9

一个型号为 **HLMP-4700** 的红色 LED 工作在 1.7 V 、 2 mA 条件下，该 LED 的发光效率为 150 流明/W 。这个 LED 的亮度是多少流明？

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