

Physics 267: Problem #2

An LED flashlight is positioned at rest in space, far from any large masses (no gravitational forces.) The flashlight runs with 50 mA of current and there is a 4 V drop across the LED. The mass of the flashlight is 0.1 Kg.

**a)**

After the flashlight is turned on, how long does it take for the flashlight to reach 1 m/s? Assume the battery does not lose power.

**b)**

How much power output would be necessary to hold the flashlight against gravity at earth's surface? Give your answer in some context.