

Make Your Own Nuclear Battery

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https://hackadaycom.files.wordpress.com/2016/11/miami_nano.jpg 300w“ sizes=„(max-width: 276px)
100vw, 276px“/><figcaption class=„wp-caption-text“>A commercial nuclear battery from City
Labs.</figcaption></figure><p>A Betavoltaic cell is a device that uses a radioactive source of beta
particles and a semiconductor p-n junction to generate electricity. Tritium, an isotope of hydrogen, is
often used as the radioactive element. You may think that tritium is hard to obtain or even forbidden,
however, recently you can find tritium in self-lightning key chains, and it is also used in watches and
firearm night sights. The beta particles (electrons) from the tritium radioactive process causes
phosphors in the device to glow, giving a light that can last for years.</p> <p>[NurdRage]&#160;has
just created a <a href=„https://www.youtube.com/watch?v=KKdzhPiOqqg“ target=„_blank“>nuclear
battery</a>&#160;using tritium vials from key chains. After getting rid of the plastic containers, he
sandwiches the vials between two small solar panels. That&#8217;s all! Instant power for the next 15
years. Of course, the amount of power you can get from this device is on the order of microwatts. The
battery produces around 1.6 volts at 800 nano amps. He gets 1.23 microwatts, not much, but it is in
fact more than the output of commercial units at 0.84 microwatts, for a ten percent of the cost. That
minuscule amount of power is actually not easy to measure, and he does a great job explaining the
circuit he used to measure the current.</p> <p> <p><a
href=„https://en.wikipedia.org/wiki/Atomic_battery“ target=„_blank“>Nuclear batteries</a> in the
microwatt range are &#160;used in clock circuits of critical computer systems and in some medical
implants. They cost approximately $2,200, so you can figure out the price per watt. [NurdRage]
version can be built for $220. You may not need one for your next electronics project, but we are sure
you will enjoy his project.&#160;If you want a light source that lasts for years but do not want to use
radioactive tritium, consider the <a
href=„http://hackaday.com/2016/07/11/tritiled-lights-up-the-night-doesnt-make-you-
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2021/12/06

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wallabag:make-your-own-nuclear-battery <https://schnipsl.qgelm.de/doku.php?id=wallabag:make-your-own-nuclear-battery>

glow/">TritiLED.</p> <p><iframe class=„youtube-player“ type=„text/html“ width=„800“ height=„480“ src=„http://www.youtube.com/embed/KKdzhPiOqqg?version=3&rel=1&fs=1&autoplay=2&showsearch=0&showinfo=1&iv_load_policy=1&wmode=transparent“ allowfullscreen=„true“ style=„border:0;“>[embedded content]</iframe></p> </html>

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