Subject: Power FETs
Posted by gofar99 on Sat, 26 Oct 2024 19:58:30 GMT
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Hi, has anyone used N channel enhancement MOSFETS as a CCS?

Subject: Re: Power FETs
Posted by Wayne Parham on Sun, 27 Oct 2024 14:28:02 GMT
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I haven't, but that does sound like a good idea. Seems like I remember seeing some schematics for just such a thing. Please do report back what you find if you experiment with that.

I've only designed with traditional power transistors, for high-current outputs, high-voltage outputs or a combination of the two. Those applications are kind of simple. I drive an automobile spark plug coil with a PNP power transistor, for example. That's basically the same approach as using one for a flyback transformer.

Subject: Re: Power FETs
Posted by gofar99 on Mon, 28 Oct 2024 01:24:07 GMT
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HI I have seen plenty using depletion MOSFETs, but none with enhancement ones. I have lots of the the enhancement ones and the others are still a few $$ to buy. Another thing I noticed was that the depletion ones have relatively high Rd-s compared to the enhancement ones roughly a 10 to 1 ratio. It would seem to make the enhancement ones better as a CCS.

Subject: Re: Power FETs
Posted by Hank on Sun, 23 Aug 2026 02:51:24 GMT
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The thing is that I've made use of N channel enhancement mosfets as a CSS a couple of times when I ran different projects. The last one that I did was when I constructed one for powering LEDs in a test circuit. It worked pretty well when I was able to fit the resistor value correctly.

The word of advice that I would give is for you to ensure that you make use of quality parts in your setup because there are chances that the current will fluctuate sometimes. Another thing that I always did was watch the heat and match closely because not doing so can make a mess of the whole thing.

Aside from these minor issues, I would say the N-channel enhancement MOSFETs does a good job for low-cost constant current and I've had a few successes using it in the past.