
Subject: Tube on a Chip?

Posted by [Nymeria](#) on Tue, 09 Oct 2012 16:40:38 GMT

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NASA and a South Korean lab are trying to make a tube small enough to use on a circuit board. There's not much information here, but it's an interesting thought.

Subject: Re: Tube on a Chip?

Posted by [Wayne Parham](#) on Tue, 09 Oct 2012 18:29:33 GMT

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That's seriously interesting! Thanks for the link.

As a humorous aside, for my birthday one year, an electronics mentor gave me a chip glued to the anode cap on top of a tube. He made a little label for it that read "microprocessor controlled tube", just as a joke. It was meant to be ridiculous, like putting a supercharger on a horse-drawn carriage.

But as the years passed, and we've seen a resurgence of vacuum tubes in audio circuits, I've often thought of that. With digital sources driving tube amplifiers, we now really do have lots of examples of microprocessor controlled tubes. And this link shows even more advancements in this area.

Subject: Re: Tube on a Chip?

Posted by [gofar99](#) on Wed, 10 Oct 2012 02:12:38 GMT

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How cool a micro 300B on a chip. The thermal load would force it to be immersed in liquid nitrogen. I see no reason why micro tubes on a chip could not be made. There are a number of tubes that are quite small now, so with technological advances since the "peanut" tube's heyday I can envision one an order of magnitude smaller. Be great for very high frequency and switching applications. For audio maybe, maybe not so great. Still a very interesting topic.

Subject: Re: Tube on a Chip?

Posted by [Nymeria](#) on Wed, 10 Oct 2012 18:15:08 GMT

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Yes, I thought it was pretty cool too. Wayne, I guess your mentor was just ahead of his time!

Bruce, I don't have much knowledge in this area, so I don't know; why do you think it'd only be good for very high frequencies?

Subject: Re: Tube on a Chip?

Posted by [chrisR](#) on Thu, 18 Oct 2012 16:04:00 GMT

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Try this: <http://en.wikipedia.org/wiki/Nuvistor>

I remember seeing these in college, but I *had* to have been in a history class.

Chris

Subject: Re: Tube on a Chip?

Posted by [Wayne Parham](#) on Thu, 18 Oct 2012 20:01:20 GMT

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Another very interesting link, thanks!

Subject: Re: Tube on a Chip?

Posted by [WorkingWoman2017](#) on Wed, 06 Sep 2017 21:50:24 GMT

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I was reading an article about this and there are now some hollow carbon tube chips that are likely to replace silicon based chips in the near future. The tubes are 1.4 nanometers in diameter, or approximately 100,000 times thinner than a human hair. Sounds like it's about to happen!

Subject: Re: Tube on a Chip?

Posted by [Ziggy](#) on Sun, 24 Sep 2017 04:03:49 GMT

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I keep finding some very interesting facts here. Who knew that they could or would make chips so small but I guess it was just a matter of time. Miracles never cease!
