

## Re: Dumb question ...

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*Source:* <http://sci.tech--archive.net/Archive/sci.electronics/2007-06/msg00003.html>

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- *From:* "George" <[george@xxxxxxxxxxxxxxxx](mailto:george@xxxxxxxxxxxxxxxx)>
  - *Date:* Sun, 3 Jun 2007 01:23:37 -0700
- 

Sounds to me that the lamp is going to try to get its 10 Amps and will blow up the transformer.  
George

"Daniel" <[dxmm@xxxxxxxxxxxxxxxx](mailto:dxmm@xxxxxxxxxxxxxxxx)> wrote in message  
[news:465fe984\\$0\\$16345\\$88260bb3@xxxxxxxxxxxxxxxx](mailto:news:465fe984$0$16345$88260bb3@xxxxxxxxxxxxxxxx)

Watts is Power measure in DC circuits where as VA is power measurement (sort of) in AC circuits because of possible phase shifts between the applied voltage and the Current.

If, and that's a very big IF, the circuit is PURELY resistive, the the AC Power will be the same as the VA rating.

40 VA transformer can, usually, very easily drive a 250 W lamp, but the lamp will, most likely, be fairly dim.

Daniel

George wrote:

...In other words, VA is the power rating, similar to saying 40 Watts.  
So a 40VA transformer cannot drive a 250W lamp.

"Daniel" <[dxmm@xxxxxxxxxxxxxxxx](mailto:dxmm@xxxxxxxxxxxxxxxx)> wrote in message  
[news:465d5249\\$0\\$13928\\$88260bb3@xxxxxxxxxxxxxxxx](mailto:news:465d5249$0$13928$88260bb3@xxxxxxxxxxxxxxxx)

Jeff Strickland wrote:

"Rich Webb"  
<[bbew.ar@xxxxxxxxxxxxxxxx](mailto:bbew.ar@xxxxxxxxxxxxxxxx)> wrote in  
message  
[news:gugp5392rv1fj1hgb7ccucfnd3j8ggv4iu@xxxxxxxx](mailto:news:gugp5392rv1fj1hgb7ccucfnd3j8ggv4iu@xxxxxxxx)

On Tue, 29 May 2007  
23:35:17 GMT, "Jeff

Re: Dumb question ...

Strickland"

<crwlr@xxxxxxxxxxxx>

wrote:

... mostly  
because I'm  
dumb.

What's the  
difference  
in a  
volt-amp  
and a  
"regular"  
amp?

I have a  
transformer  
that makes  
24vAC, and  
is rated at  
40 VA, but  
the  
amp  
rating is  
only 1.67.

I have a  
lamp (fiber  
optic  
system) that  
takes 24v  
and 250W,  
which  
works out  
to 10.4A.  
The VA  
rating does  
not give me  
the current I  
need, and  
when  
I plug  
the light in,  
the voltage  
drops  
because the  
draw  
exceeds the  
power by

Re: Dumb question ...

a wide  
margin.

<http://en.wikipedia.org/wiki/Volt-amp>  
is a starting point. To avoid  
recapitulating what's  
explained better and in more  
detail elsewhere,  
volt-amps and WATTS (not  
"regular' amps") are the  
related  
measurements.

Okay, so to distill it down, 40VA is not near  
enough to drive a 250w  
light?

Actually, this is a bit moot because another  
multi meter in my fleet  
has determined that the lamp is open. I can't  
explain why I couldn't  
figure this out before I bought the new  
power supply ...

Gee, that Wikipedia explanation is a bit hard to understand,  
so here is  
my attempt.

In D.C. circuits, the voltage peaks occur at the same time as  
the  
current peaks, so the power in the circuit is found by  
multiplying the  
voltage applied, i.e. if applying 6 volts causes 2.5 Amps to  
flow, the  
power dissipated by the circuit is  $(6 \times 2.5)$  15 watts.

However, in A.C. circuits, the effects of the components in  
the circuits  
can cause the peak current to not flow at the same time as the  
peak  
voltage occurs. So you may apply 6 volts a.c. to a circuit, and  
at some  
times 2.5 Amps a.c. may flow at some time, but because the  
6 volts and  
2.5 amps do not occur at the same time, it is, technically,  
incorrect to  
say that the power in the circuit is 15 watts, it is correct to  
say that  
the circuit draws 15 VA.

Re: Dumb question ...

Daniel

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