

Re: Maximum current for TO-220 package 75-95A, and how to connect heavy leads

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- *From:* Terry Given <my_name@xxxxxxxx>
 - *Date:* Fri, 02 Jun 2006 17:51:52 +1200
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The Phantom wrote:

On 31 May 2006 19:52:02 -0500, bob <bob@> wrote:

Many years ago, I watched Phantom test the breaking point of a TO-220 FET leg. It was at about 150 Amps DC that it went fizz like a fuse.

bob

Yes, I remember that test well. I was skeptical of some of the FET's IR was bringing around with current ratings over 100 amps. The test I did was to clamp a huge copper clamp to the tab on the TO-220 case, and another clamp out at the very tip end of the middle (drain) lead. I then turned up the current until the lead turned red hot and melted, and Bob remembers correctly, it was at 150 amps.

Bwahahahahaha!

The leads of a TO-220 neck down, and if you make a connection closer to the body where the leads are wider, you will be able to carry 100 continuous amps safely, if your connection at that point is heavy enough to be a good heat sink.

Of course it will be less than fun to make said connection.

Lies, Damned Lies, and things IR say in their datasheets. I've seen them give power figures so high that run thru the devices own Rtheta they give $dT > 200C$. They like to spec things with a junction at 25C...

The first thing I do when comparing R_{dson} is to scale it to $T_j = 125C$

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Cheers
Terry