Re: Collector resistance of power bjts

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On Sat, 09 Dec 2006 00:04:53 +0000, Eeyore
<rabbitsfriendsandrelations@xxxxxxxxxx> wrote:

> I just happened to be curious about a typical value for the collector resistance of a power bjt (such as in an audio amp) and to my surprise the data that I had handy didn't have any curves for the output characteristic (Motorola Bipolar power data rev 6 − and I can't locate the other 2 data books I was looking for).
>
> Before I go trawling various web sites randomly, has anyone got any quick suggestions for where to look first ?

Not common in typical bipolar output transfer characteristics for power devices. Philips still did it in the seventies. You'll see curve−tracer−like output plots for some higher voltage output devices in the 80's .

Fujitsu illustrates 400 ohm slopes on their 120V 25W linear devices, in the 1A range, increasing to 2K below .25A IC.

Philips published curves for video transistors (eg BF470/472 and BF469/471) with collector curve slopes of ~1K, below 1A IC.

TIP120/121/122 (npn) darlingtons had spec sheets with curves, together with TIP125/126/127 (pnp). ~ 500R.

BUX17 HV switch looks like 50R, below 6A IC and above 10Vce.

So you should look for video deflection or 'audio' devices if you want to see typical curves published.

They're just not relevant with silicon devices in most power applications, outside of saturation − where they're anything but a simple resistance.

RL

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