Subject: LED values?
Posted by colinhester on Wed, 02 Feb 2005 02:35:28 GMT
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I remember somewhere that the LEDs are supposed to be around 20mA apiece. I do not remember if there is was a specified voltage. Can anyone refresh my memory?

Subject: Re: LED values?
Posted by Wayne Parham on Wed, 02 Feb 2005 09:33:48 GMT
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Light-emitting diodes are like other diodes, in that they are formed by a semiconductor PN junction. The semiconductor material of the junction is what sets the voltage required to forward-bias it. For example, germanium diodes are forward biased at 0.3v and silicon diodes at 0.7v. That's what sets the operating voltage of a silicon of germanuium transistor too.Light-emitting diodes use different semicondutor junctions to provide different colors, and each has a different forward-voltage requirement, usually between 1 and 4 volts. The typical red LED requires about 1.7 volts. Semiconductor junctions that provide higher frequency colors require higher forward voltage bias.

Subject: Red lead
Posted by PakProtector on Wed, 02 Feb 2005 11:55:24 GMT
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Hey-Hey!!!,The red seem to be the quietest. It could be done with a 4V single, perhpas green or blue, but I have found even orange ones to contribute some noise. Perhaps it was just the Radio-Shack ones I tried, but...The 20 mA red, standard red, are the ones you want. The internal resistance of the specialty red ones is not optimum for Audio use.regards,Douglas

Subject: Re: Red lead
Posted by Wayne Parham on Wed, 02 Feb 2005 13:02:27 GMT
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Those little LEDs always make me think of fireflys.What about using a string of regular silicon diodes? I've used them to bias circuits a lot, but the first time I saw an LED used for this was in the CCS on Bottlehead stuff. You get higher forward-bias voltage with an LED than a regular solid state diode but you can sure use a series string instead. I always thought the LEDs were

used for effect as much as anything else.

Subject: interesting...
Posted by PakProtector on Wed, 02 Feb 2005 13:42:38 GMT
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I have a feeling that a small string of Schottky would be a cool idea. Forward biased at ~.4V each. We'd need more than two, but it would offer a far finer adjustment of the bias voltage.I suspect that the Schotky would be quieterin fwd bias than a Si one would be. Nice suggestion I must say. If I didn't need a 20-30 of them in the new one (instead of 6 red LED's), I'e be solderig up a string.regards,Douglas

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Subject: Re: interesting...
Posted by Wayne Parham on Wed, 02 Feb 2005 14:33:58 GMT
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Schottky diodes might be attractive. But the problem is that the voltage across them is much lower, so you'd need even more of them.

Subject: Re: LED values?
Posted by cheetah on Wed, 02 Feb 2005 19:34:18 GMT
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For the adventurous, a 6BE3 TV damping diode @ 15mA current should give approx 3-3.5 V bias voltage.Saw this done this way on the Axiom Amp. Haven't tried it, but it sure looks interesting.Joe

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Subject: Re: LED values?
Posted by colinhester on Wed, 02 Feb 2005 22:13:42 GMT
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The red LED at RS were rated between 2.1 and 2.3V, and ranged anywhere from 15 to 60mA current draw....Colin

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