Hello Bruce,

I've been following this thread and have a comment to make. Sandy's suggestion is probably the direction you should migrate?

> If you don't need a temperature display you could make use of the Vdd / 2 switching point of CMOS inputs. Adjust R1 to the value of the thermistor at the target temperature. Feed the output to a prop input pin instead of the ADC. Just feed the input pin signal, inverted, to an output pin. That should give you kind of an automatic PWM signal for your heating element.

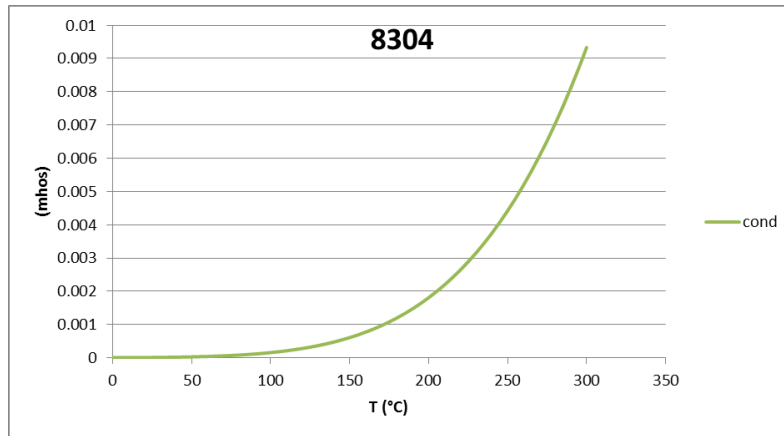This was fairly close to an approach I was going to suggest.
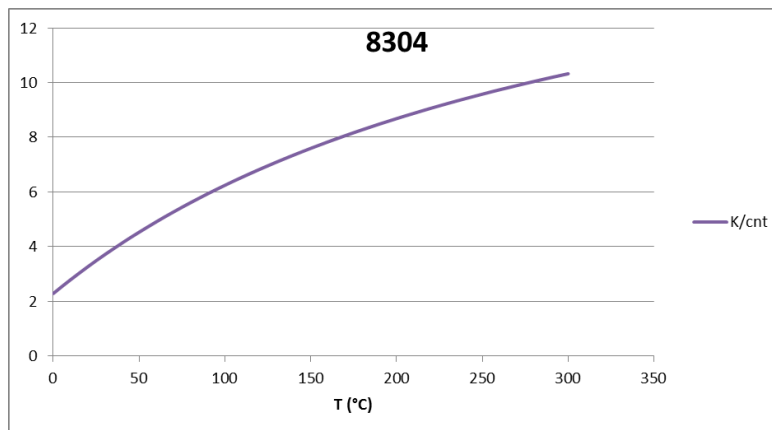
Here's the logic … taken from the data sheet table.
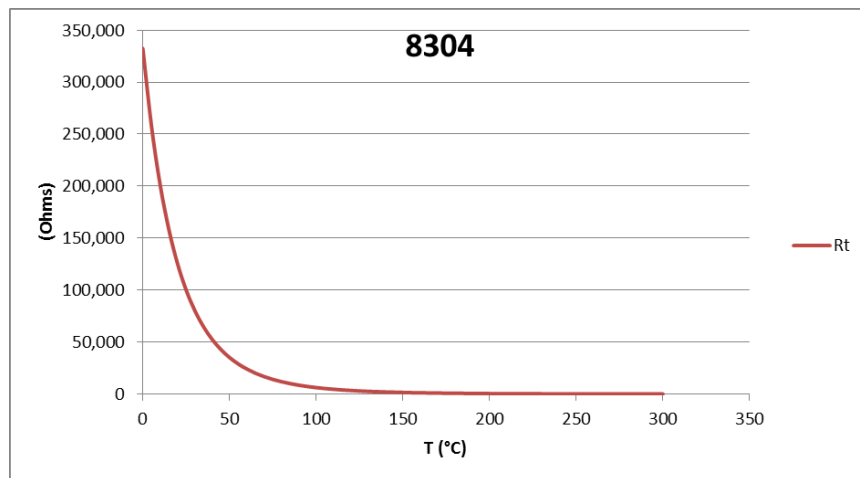
Graph of probe data

Not a nice curve … yuk.

But, if instead … we look at the conduction $(1/R_t)$ 'mho's you have:

Now, if you charge a cap to 3.3v and let the thermistor bleed it to Vdd/2 … Then use a large constant divided by your bleed time to Vdd/2 … you will get a chart very close to:

And that is curve you can easily handle at nearly all ranges … just theory, since I do not have your probe to test my idea with?

… Tim