

Re: Question about diode temperature and forward voltage

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Thanks but do you know how to derive an equation so I can get $dV_f / dT = -2\text{mv} / \text{C}$?

Jamie wrote:

acataldo@xxxxxxxx wrote:

I'm trying to understand how a diode can be used to detect changes in temperature. According to all the literature I've read, a diode's forward voltage, V_f , falls by 2 mV for every 1 degree C increase in temperature. This doesn't seem to agree with the diode equation, which suggests that V_f should increase with temperature.

$$V_f = k \cdot T / q \cdot \ln(I_f / I_s)$$

What am I missing?

what your missing is the way it's being used in the circuit.
diodes start conducting better as they get warmer.
if you were to have a diode in a series circuit and measure voltage that way, then you would get the increase as indicated how ever what i think your looking at is the diode being used as a shunt load..
as the diode warms up it conducts better and there for dropping the voltage on the load.
normally 2 diodes in series are used into a pot that drive's the base of a transistor.
the pot, is to calibrate the bias point.

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Real Programmers Do things like this.

Re: Question about diode temperature and forward voltage

http://webpages.charter.net/jamie_5