

Re: Calculating resistors required

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Anthony Fremont wrote:

- > *Or, as you should probably do, you could use a linear voltage*
- > *regulator with a low dropout.*

Excellent. I'm just looking @ Rapid Electronics, and they seem to be available in lots of different packages! Some look like ICs, and some have 3 legs. How do I figure out what I need?

http://www.rapidelectronics.co.uk/rkmain.asp?PAGEID=20671&CTL_CAT_CODE=30416

- > *You *will* want to use resistors to limit the current thru your LEDs,*
- > *otherwise the PIC will attempt to supply a very large amount of current*
- > *to the LED. This is likely to result in damage to the LED and/or the*
- > *PIC output pin circuitry. (you can kill a PIC one pin at a time) LEDs*
- > *(like most diodes) are not voltage controled devices, they need current*
- > *limiting or they will burn out.*

Righto. I've seen a formular for figuring out what resistors I need for LEDs as:

$1000 * (\text{supply.voltage} - \text{voltage.needed}) / \text{current}$

Does this look right? And is this for LEDs only, or can it be used for other things too?

- > *The goal is to never have an input pin in a "floating" state. They are*
- > *suggesting that you use a pull-up resistor on the pin so that when the*
- > *switch isn't closed(pressed), the input pin sees a logic 1 (+5V) via the*
- > *juice feeding thru the pull-up. Then you have the switch so that it*
- > *shorts the pin directly to ground when pressed. The pull-up resistor*
- > *will limit how much current is flowing to ground, and the input pin will*
- > *"see" a logic 0. This way, the input pin is always connected to a*
- > *voltage reference of 5V or 0V.*

My only question here, is that a switch would then give logic 0. I thought it would be reversed, and a 1 would mean the switch is pressed. Is that the usual way of doing things?

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GND

(created by AACircuit v1.28.4 beta 13/12/04 www.tech-chat.de)

Two switches on the left. Two pins unused, one LED, and one motor. That right?

Many thanks,

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Danny