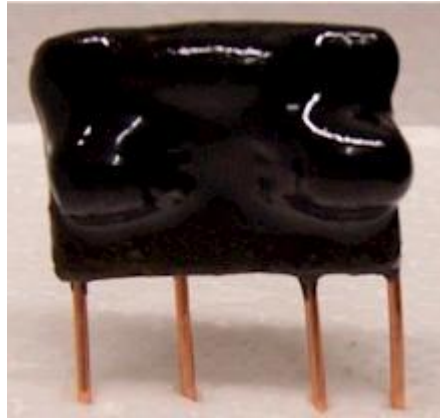


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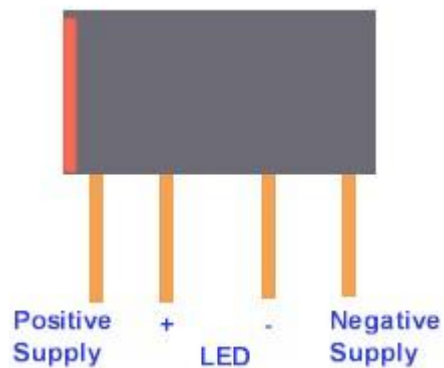
PO box 5351
Q-Super Centre
Mermaid Waters 4218
Queensland Australia



These Thick film Constant Current Modules come in four sizes, each colour coded for their appropriate current rating. They are all rated at 0 to 40 VDC input.

WHITE : 20mA
BLACK : 30mA
GREEN: 50mA
RED : 100mA

Encapsulation material ATL Epoxy Resin



The RED Stripe indicates the positive supply connection. The 100mA module has a WHITE stripe.

Application Note #1

A 12 volt light is to be manufactured using 5mm white LEDs with a Forward Voltage (V_f) rating of 3.4 (Typ) and a Forward Current rating (I_f) of 30mA.

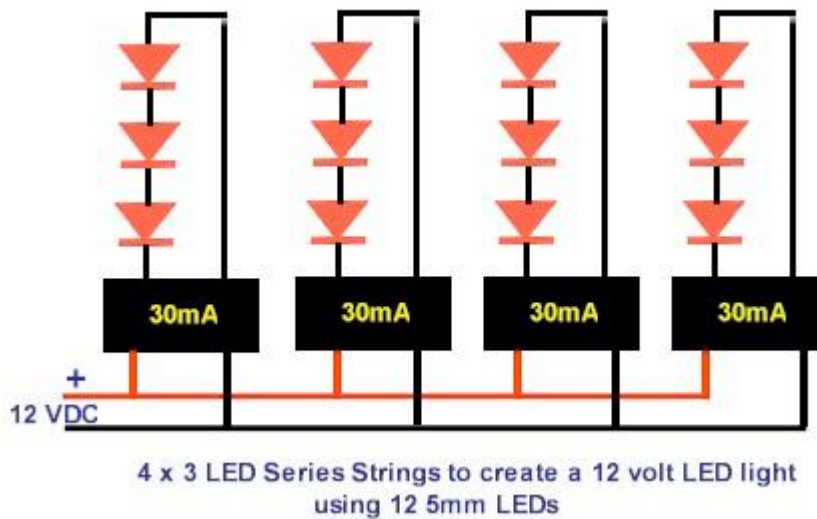
Due to the size of the light fitting, the number of LEDs required to occupy the allotted space and provide adequate light output should number around 12.

The LEDs will be wired in a number series strings. The number of LEDs in each string must not exceed the applied voltage, in this case 12 volts.

From a simple calculation we find that 3 LEDs at 3.4 V_f requires 10,2 volts which is within the 12 volt range. Should we have used 4 LEDs the resulting series string would require at least $3.4 \times 4 = 13.6$ volts. In this case the LEDs would not be able to operate at their optimum efficiency.

So from the above calculation we find that we require four series connected strings of three LEDs per string.

As the LEDs are rated at 30mA we will insert a BLACK Constant Current LED Engine into each string, thus giving us the required total of 12 LEDs running at their optimum light output when a DC voltage in the range from 12 to 40 volts is applied to the input.



PARTS REQUIREMENT:

12 x 5mm White LEDs

PCB for mounting the LEDs

4 x 30mA contact51 Thick Film 30mA Engines C51TFM30

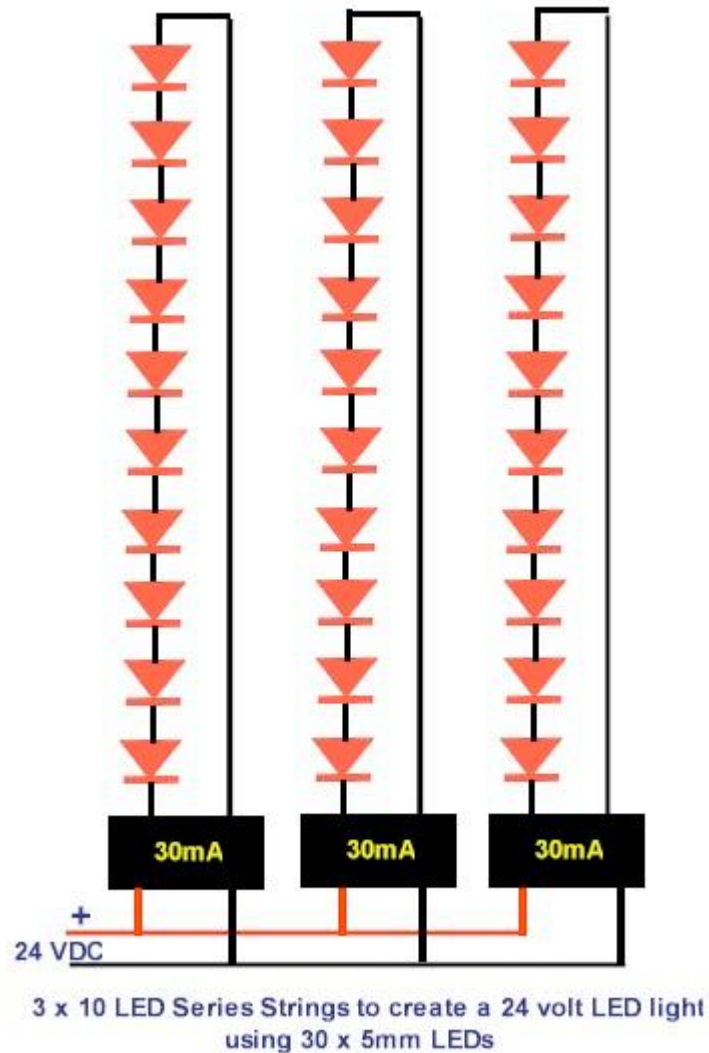
Application Note #2

A 24 volt DC light is to be made up RED 5mm LEDs. The surface area of the light will require approximately 30 LEDs.

The LEDs have a V_f of 2.3 volts and a I_f of 50mA.

By calculation we find that 10 LEDs will require 23 volts, which is under the supply voltage of 24, so we can arrange three series strings of 10 LEDs per string.

As there will be three strings, we will need three GREEN 50mA **C51TFCM30** LED Engines.



Further information can be obtained from our Website: www.contact51.com