DQG 26650 driver hacking

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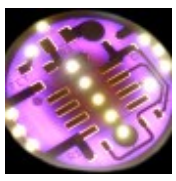
Fri, 06/06/2014 - 23:52 #31

comfychair



Offline

Last seen: 12 weeks 2 days ago
Title: ★★★★★
Joined: 01/12/2013
Posts: 5873

Aarg, yes, just checked that

Aarg, yes, just checked that again and you're right. So low is none of the output pins on, mid is #7, high is #6, & turbo is #5.

_____

...

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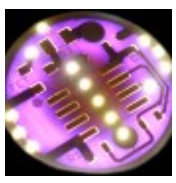
Fri, 06/06/2014 - 23:58 #32

comfychair



Offline

Last seen: 12 weeks 2 days ago
Title: ★★★★★
Joined: 01/12/2013
Posts: 5873

wight wrote:* I'm unable to

> ***wight* wrote:**
>
> * I'm unable to identify the 8-pin semiconductor on the bottom marked 9426 / (i) AE Δ / L45C. I think that's the Siliconix logo, but I do not know specifically what the part is. I assume it's a FET of some type. Does anyone know?

Dunno, but its source pins are in parallel with the AO4468, and its drain pins go to GND (AO4468's do not). Their gate pins aren't connected.

_____

...

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Sat, 06/07/2014 - 00:04 #33

wight
Offline

Last seen: 1 hour 23 sec ago
Title: ★★★★★
Joined: 11/27/2013
Posts: 4180
Location: Virginia, USA

comfychair wrote:What about

> ***comfychair* wrote:**
>
> What about this? (L/M/H/T – LTC1871 pins 6-10)
>
> 10 sense: 29kHz/890kHz/1.3MHz/1.3MHz
> 9 Vin: 1.45kHz/32kHz/656kHz/3.24MHz
> 8 INTVcc: n/a
> 7 gate: 45kHz/340kHz/657kHz/657kHz
> 6 gnd: n/a

This chip does not have a fixed freq. I would say that those freqs are changing in response to some other factor. While the LTC1871 does not have dimming, I currently have no idea whether or how the LTC1871 is being used to reduce the output current for lower modes.

Let's do some more voltages on the LTC1871. (boring, I know) I'd probably just do two modes, we just need to see what's changing and what's not.

Ith (Pin 2) – I'm totally having trouble understanding this pin. The second paragraph on page 8 of the datasheet is throwing me for a loop.
FB (Pin 3) should be 1.230v all the time [this one should just be a sanity check]
Freq (Pin 4) nominal is 0.6v, but taking this closer to ground changes the

frequency…
Pin 5 – is this connected to Pin 6 (GND), Pin 8 (INTVcc) or something else?
Pin 10 – is this connected to one of the FETs?

I know there's only so much you can do, but better lit pictures would be great. Very diffuse lighting to cut down on the shadows.

***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

Released Drivers: 17mm/20mm/26/27mm *single-sided* DD/FET driver [AxxDD-SO8] **||** 17mm 8x7135 with Zener & dual-PWM [A17PZL] **||** 22mm 16x 7135 driver [A22-7135]

WIP Drivers: 17mm double-sided & 20mm+ single sided 4Amp+ linear driver [A17LDX] **||** 17mm+ single sided DD driver w/ low parasitic drain [A17DD-LDO?] **||** *15mm* single-sidedDD+single-7135: LFPAK33 FET driver with one 7135 for moonlight mode **||** 17mm *single-sided* DD+single-7135: FET driver with one 7135 for moonlight mode **||** 17mm DD+7135: linear regulated driver w/ FET turbo **||** 15mm Low profile DD driver with big FET [A15DD-SO8] **||** *On Hold: 17mm QX5241 5Amp 1-4 LED 2-4s Li-Ion Buck driver*

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Sat, 06/07/2014 - 00:07 #34

wight
Offline

Last seen: 1 hour 23 sec ago
Title: ★★★★★
Joined: 11/27/2013
Posts: 4180
Location: Virginia, USA

comfychair wrote:wight

> ***comfychair* wrote:**
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> > ***wight* wrote:**
> >
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>
> Dunno, but its source pins are in parallel with the AO4468, and its drain pins go to GND (AO4468's do not). Their gate pins aren't connected.

Thanks. What you mean by the last line is that "Their gate pins aren't connected in parallel / together", right?

***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

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Sat, 06/07/2014 - 00:20 #35

wight
Offline

Last seen: 1 hour 23 sec ago
Title: ★★★★★
Joined: 11/27/2013
Posts: 4180
Location: Virginia, USA

comfychair wrote:Aarg, yes,

> ***comfychair* wrote:**
>
> Aarg, yes, just checked that again and you're right. So low is none of the output pins on, mid is #7, high is #6, & turbo is #5.

All 3 of those pins clearly connect to the "Base" pin of corresponding transistors, according to your markings in that colored-in picture you did. What happens after that is less clear. Maybe tracking things down that way would be easier than guessing based on voltages at the LTC1871.

Please tell me that it's not just a pile of transistors messing around with the sense resistors. I'm not sure that's possible, but all that stuff is suspiciously close together…

***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

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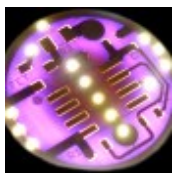
Sat, 06/07/2014 - 00:49 #36

comfychair



Offline

Last seen: 12 weeks 2 days ago

Title: ★★★★★

Joined: 01/12/2013

Posts: 5873

1 RUN B+ in all modes2 Ith

1 RUN B+ in all modes
2 Ith 1.52mV/226mV/380mV/.754V
3 FB 1.247V/1.234V/1.250V/1.289V
4 FREQ .623V/.627V/.639V/.680V
5 M/S 5.17V/5.19V/5.21V/5.26V

AO4468 gate:
24mV/.739V/1.791V/2.375V
58khz/696k/657k/657k

9426 gate: B+/0Hz in all modes

> ***wight* wrote:**
>
> What you mean by the last line is that "Their gate pins aren't connected in parallel / together", right?

Correct.

...

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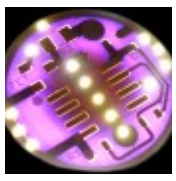
Sat, 06/07/2014 - 05:07 #37

comfychair



Offline

Last seen: 12 weeks 2 days ago

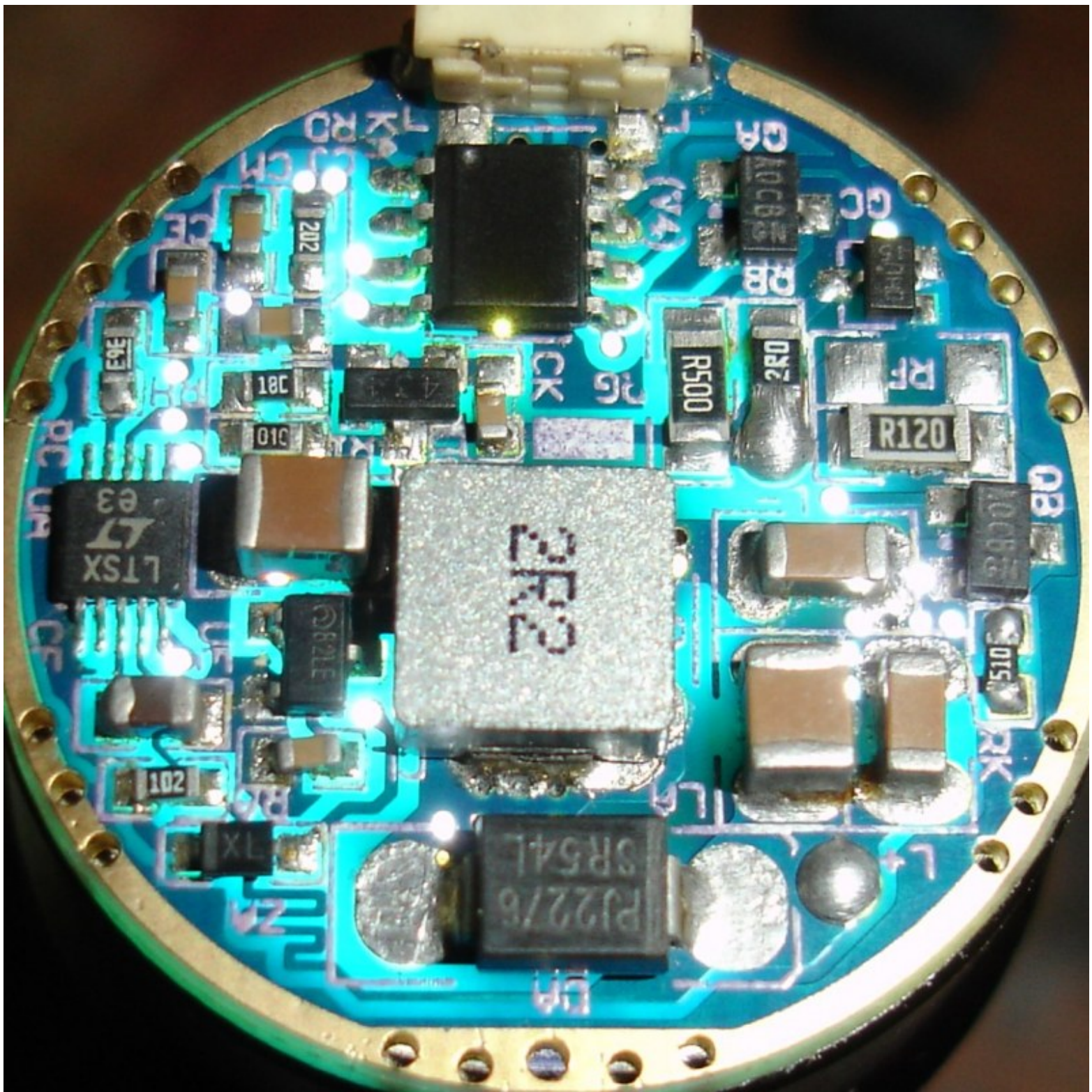
Title: ★★★★★

Joined: 01/12/2013

Posts: 5873

(No subject)

edit: Resized/aligned images and turned it into a mouseover:



So what you're wondering is, is it just using a different resistor for each mode? Wouldn't that be a terribly weird way of doing it? Although I guess that would explain why there's also no detectable PWM at the LED+/-...

_____

...

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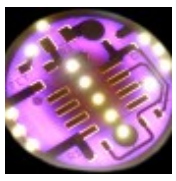
Sat, 06/07/2014 - 07:50 #38

comfychair



Offline

Last seen: 12 weeks 2 days ago

Title: ★★★★★

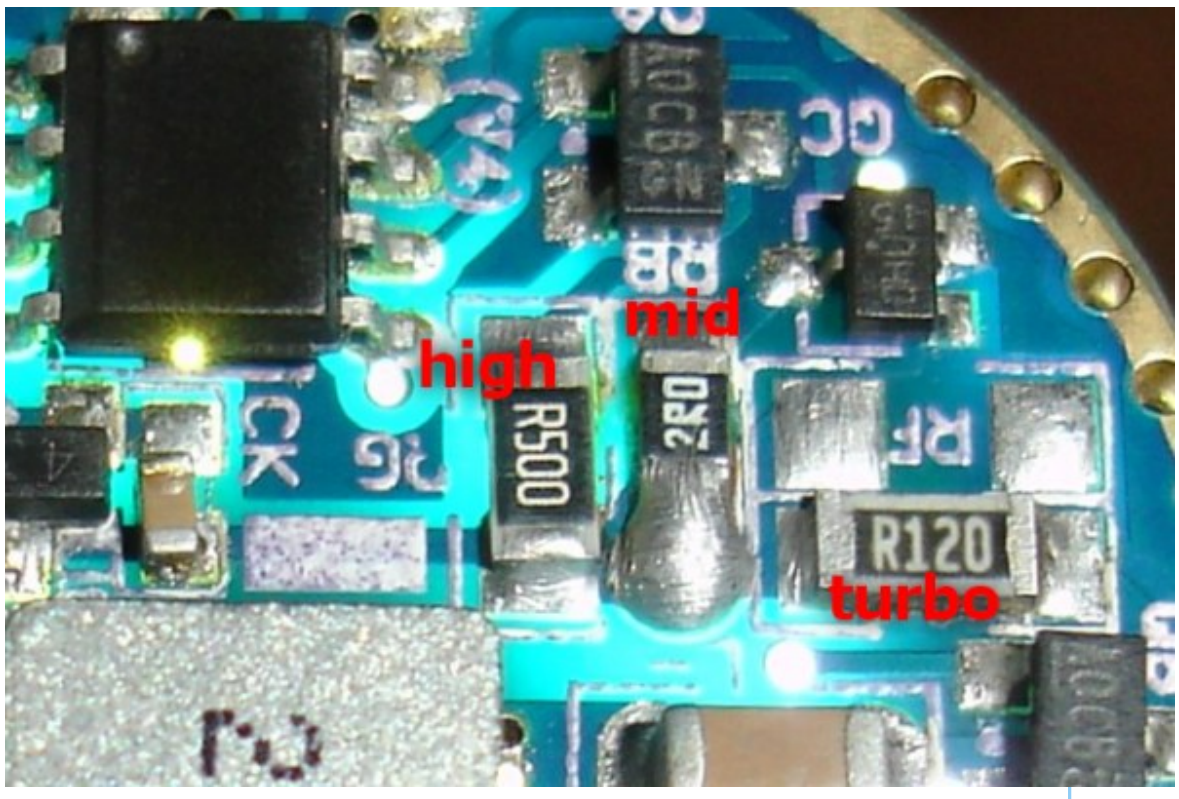
Joined: 01/12/2013

Posts: 5873

wight wrote:Please tell me

> ***wight* wrote:**
>
> Please tell me that it's not just a pile of transistors messing around with the sense resistors. I'm not sure that's possible, but all that stuff is suspiciously close together...

That's exactly what it does.



Shorting across the 2R0 makes medium brighter. Shorting the R500 makes high brighter. And (no bonus points for guessing this one!) shorting the R120 makes turbo brighter. Dunno where the low mode is coming from, since none of the MCU pins are active for the low mode it must be the default current supplied by... something else.

...

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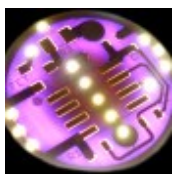
Sat, 06/07/2014 - 08:15 #39

comfychair

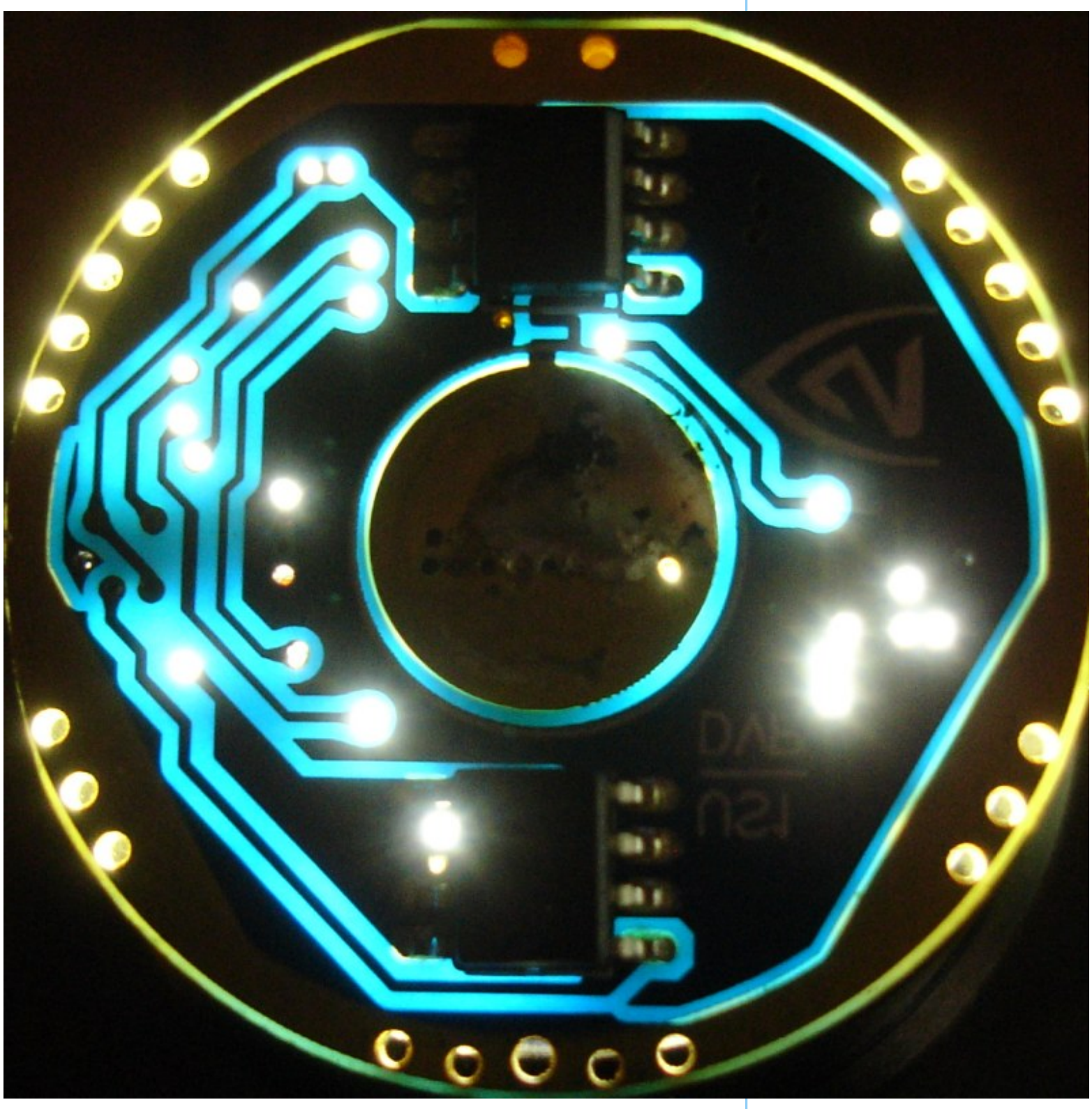


Offline

Last seen: 12 weeks 2 days ago
Title: ★★★★★
Joined: 01/12/2013
Posts: 5873

And a mirrored x-ray of the

And a mirrored x-ray of the battery side, so the vias line up with the topside pic (most of them, anyway - what's going on under the LTC1871 is still a mystery).



...

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Sat, 06/07/2014 - 10:16 #40

wight
Offline

Last seen: 1 hour 23 sec ago
Title: ★★★★★
Joined: 11/27/2013
Posts: 4180
Location: Virginia, USA

comfychair wrote:wight

> ***comfychair* wrote:**
>
> > ***wight* wrote:**
> >
> > Please tell me that it's not just a pile of transistors messing around with the sense resistors. I'm not sure that's possible, but all that stuff is suspiciously close together…
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> That's exactly what it does.
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> Shorting across the 2R0 makes medium brighter. Shorting the R500 makes high brighter. And (no bonus points for guessing this one!) shorting the R120 makes turbo brighter. Dunno where the low mode is coming from, since none of the MCU pins are active for the low mode it must be the default current supplied by… something else.

Uhm, well then. I guess we know how to control this thing then. Does jumpering the turbo resistor affect the other 3 modes?

Do the 3 transistors which control this action get hot at all? I just can't see the circuit well enough to see if these sense resistors are the inline kind (I think current can be sensed without putting a resistor inline with the load in some circumstances, but I'm not certain. If these are in line with the load, seems like they'd get hot.)

***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

Released Drivers: 17mm/20mm/26/27mm *single-sided* DD/FET driver [AxxDD-SO8] || 17mm 8x7135 with Zener & dual-PWM [A17PZL] || 22mm 16x 7135 driver [A22-7135]

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Sat, 06/07/2014 - 10:34 #41

wight
Offline

Last seen: 1 hour 23 sec ago
Title: ★★★★★
Joined: 11/27/2013
Posts: 4180
Location: Virginia, USA

Here is the STAR firmware

Here is the STAR firmware modified to run this light.
~~http://photo.jesusthepirate.com/blf/DQG-26650-TRIPLE/SRK_no_ramp_1.0__DQG-26650_v002.c~~
EDIT: switch pin not set as input.

I added the 3 flashes on stepdown code from the clicky firmware.

If it works as is I'll be a little surprised.

***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

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Sat, 06/07/2014 - 10:47 #42

wight
Offline

http://photo.jesusthepirate.c

http://photo.jesusthepirate.com/blf/DQG-26650-

Last seen: 1 hour 23 sec ago
Title: ★★★★★
Joined: 11/27/2013
Posts: 4180
Location: Virginia, USA

TRIPLE/SRK_no_ramp_1.0__DQ…

- Fixed SWITCH_PIN setup.
- Fixed MODEx_PIN issues.
- Moved function declaration to remove warnings.

_____

***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

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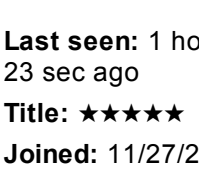
Sat, 06/07/2014 - 19:16 #43

comfychair



Offline

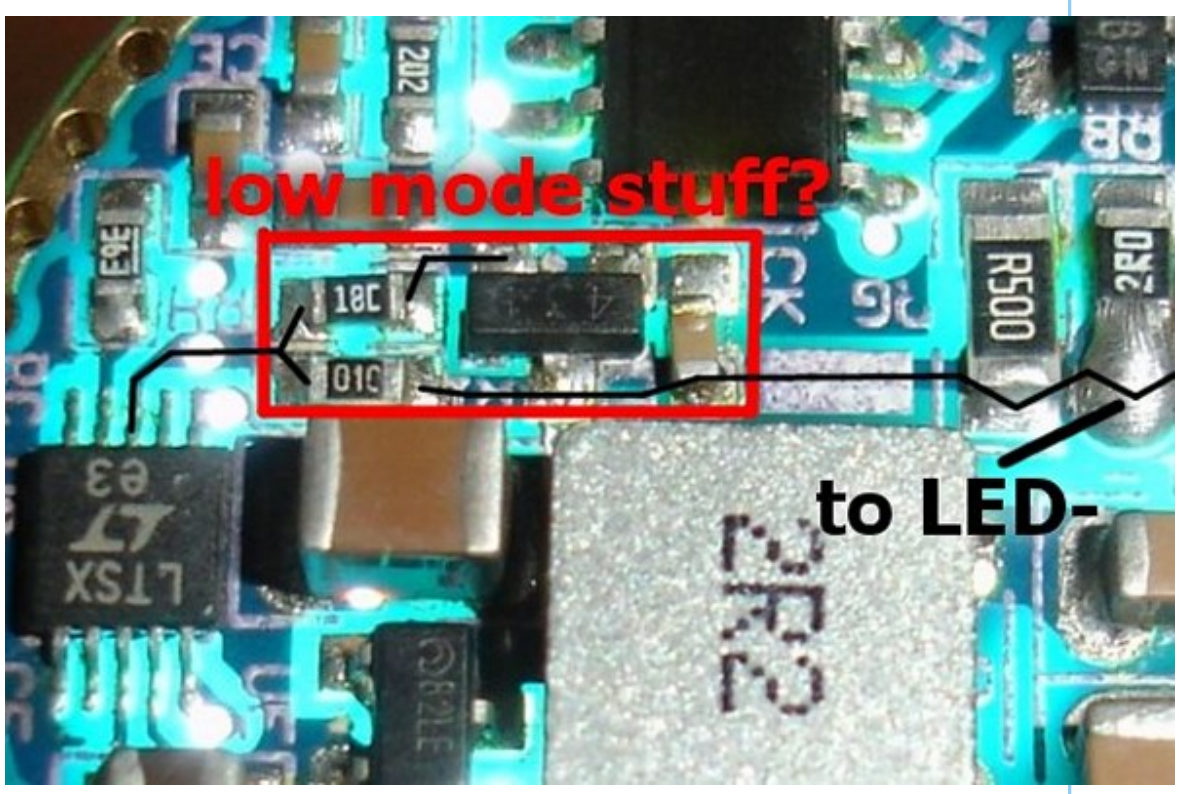
Last seen: 12 weeks 2 days ago
Title: ★★★★★
Joined: 01/12/2013
Posts: 5873

wight wrote:Uhm, well then. I

> ***wight* wrote:**
>
> Uhm, well then. I guess we know how to control this thing then. Does jumpering the turbo resistor affect the other 3 modes? Do the 3 transistors which control this action get hot at all? I just can't see the circuit well enough to see if these sense resistors are the inline kind (I think current can be sensed without putting a resistor inline with the load in some circumstances, but I'm not certain. If these are in line with the load, seems like they'd get hot.)

I haven't noticed them making heat, but I haven't specifically checked them for that, either. The only part I noticed trying to burn my fingers was the big diode down at LED+. These are just limiting resistors. I could swap the resistor locations around, and change the mode order.

This must be the section handling the low mode, since the other 3 are already known:



The little 180 (or 18C?) is the limiter, or the 010? What's a '010' anyway? My go-to decoder page says it's not a valid marking. Through that 010, there's a direct path to the #3/FB pin at all times. I haven't tried, but I'd assume that shorting the 010 resistor there would affect all modes, unlike the other 3 resistors that all work independently (in mid, shorting the H or T resistor has no effect; in high, shorting M or T has no effect, etc.).

_____

...

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Sat, 06/07/2014 - 20:46 #44

wight
Offline

Last seen: 1 hour

comfychair wrote:wight

> ***comfychair* wrote:**

24 sec ago
Title: ★★★★★
Joined: 11/27/2013
Posts: 4180
Location: Virginia, USA

> ***wight* wrote:**
>
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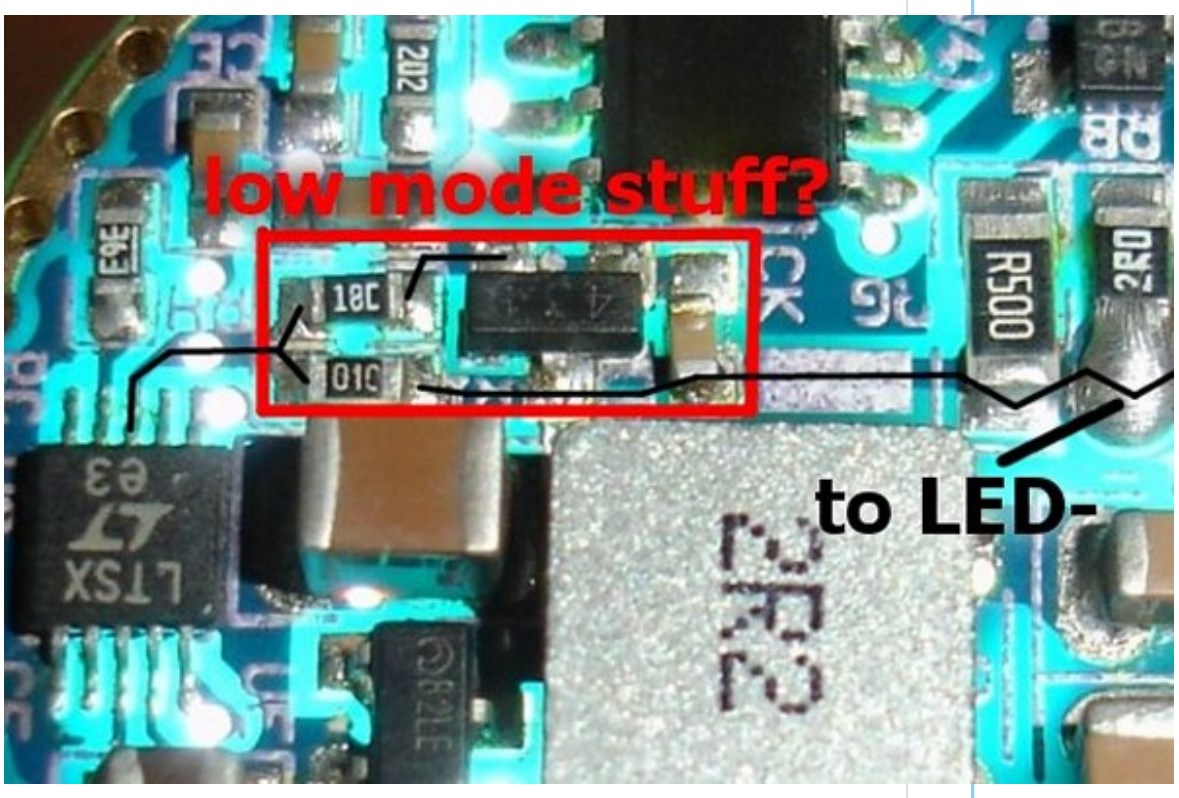

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Resistors like R120 and R500 are definitely *sense* resistors, not *limiting* resistors.

You may be able to directly measure the resistance of those two resistors you've got in the red box. What does that show? I'd measure both directions on each. I'm not sure how the transistor (or whatever) & capacitor there affect the operation of that section.

Basically the whole board could be "low mode stuff" since low mode is just a baseline and all the other modes are higher. Almost any of the small components could be involved with setting the baseline current and voltage… But yeah, that section is a suspect.

Your latest pictures show that there should be a break in the green line in your colored-in pic. Each of the sense resistors connects (through a dedicated transistor) to the big copper pour on the back which attaches to the FETs.

Due to the camera orientation, I cannot see where the via between the big cap and the red box you drew connects.

Immediately to the left of your red box there is a via, this appears to head down to the diode marked XL, through a resistor, and then on to Vin (Pin 9). I don't think that's what's really happening, that's just what I see.

Personally I am much less interested in this driver board now that I realize that it does not use a dedicated LED controller. It is very complicated for what it achieves.

FWIW, the FB pin is for setting voltage, SENSE pin is for setting current. I think.

Top

wight
Offline
Last seen: 1 hour 24 sec ago
Title: ★★★★★
Joined: 11/27/2013
Posts: 4180
Location: Virginia, USA

Is there a path between LED-

Is there a path between LED- and the big copper pour on the back of the board when:

- the light is off
- the light is in low mode?

obviously there's a path for M/H/T

WTS **Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

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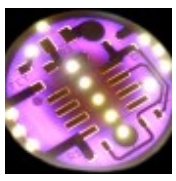
comfychair

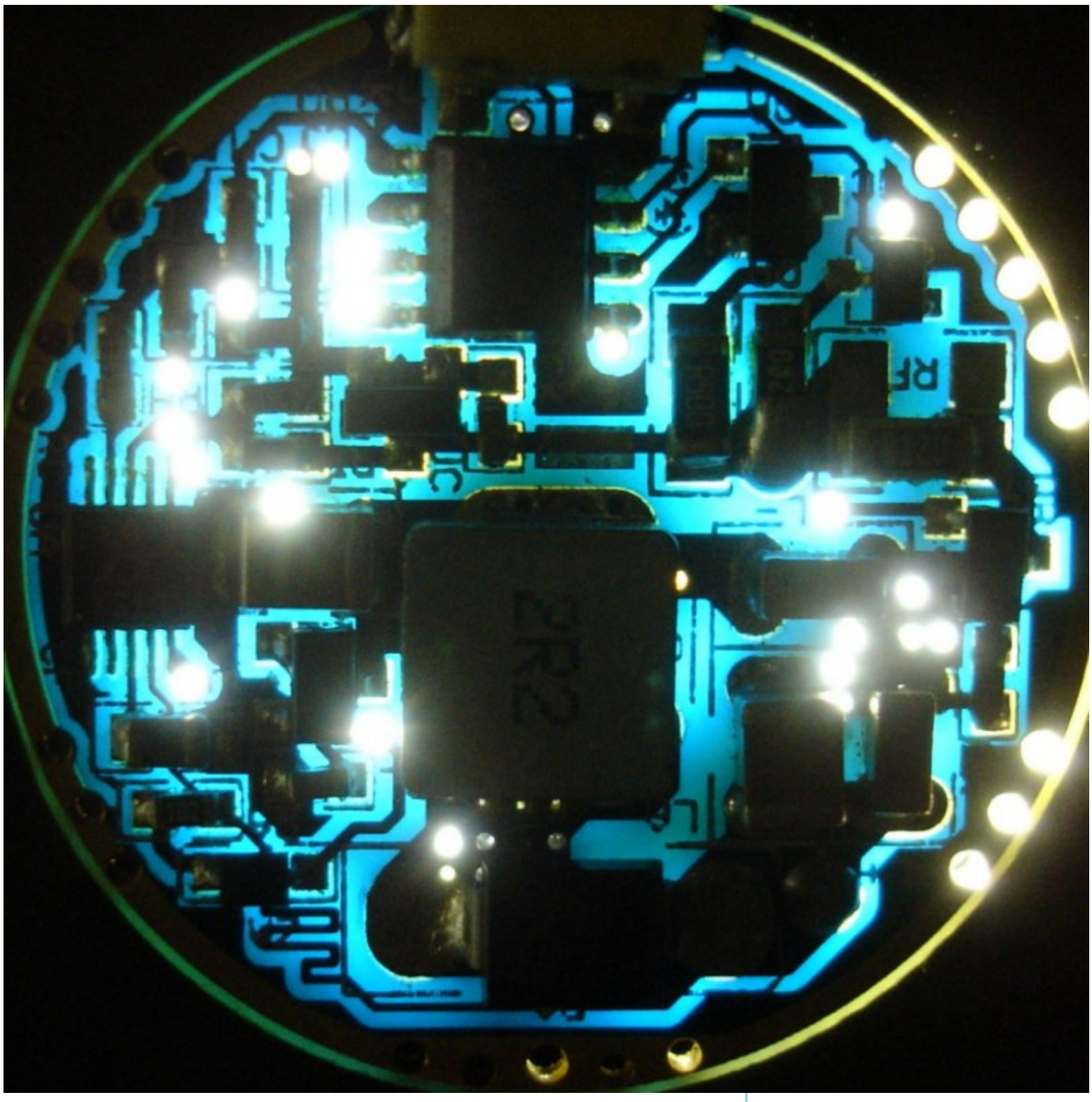


Offline
Last seen: 12 weeks 2 days ago
Title: ★★★★★
Joined: 01/12/2013
Posts: 5873

If they are sense resistors,

If they are sense resistors, which component on the board is reading their voltage drop? If the LTC1871 were controlling the modes I could see it, but we know it's not. It looks to me like it just boosts up to whatever set point, then the path to ground is routed through the appropriate resistor via each mode's little FET.

The big cap between the inductor & the LTC1871 is on the main B+ pad on the R/H side, its L/H side goes to a longish fat trace that goes down to a medium size cap, the thing marked 82LE, and a tiny cap. There's a big horizontal B+ trace at the top of the inductor. Easiest seen in this pic:



Anyway, I'm about certain there's not enough room in the light to fit a piggyback board on top to hold the attiny - depth in the head is only 5.8mm off the top surface of the original driver, and the inductor takes up 3mm of that already. The only workaround I can think of at the moment is something like gluing the attiny upside-down onto the board where the original MCU is and use jumper wires to route the legs to the right pads. 😢

_____

...

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Sat, 06/07/2014 - 22:17 #47

wight

Offline

Last seen: 1 hour 24 sec ago

Title: ★★★★★

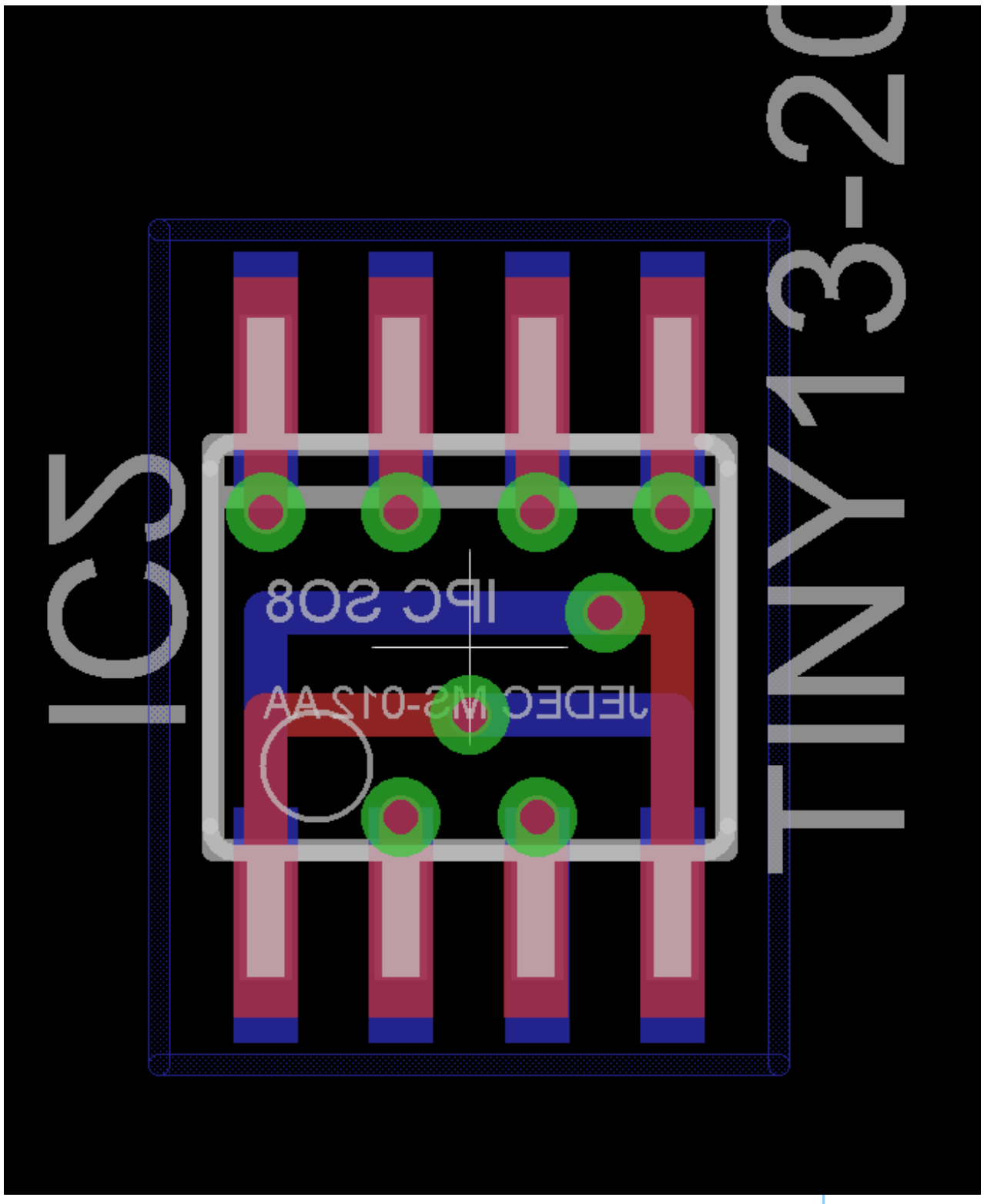
Joined: 11/27/2013

Posts: 4180

Location: Virginia, USA

Funny you should mention

Funny you should mention that. I worked on this some but decided it was a stupid idea. You have to reflow the adapter PCB onto the main PCB of course – either a big hoof tip or some chipquick might do OK, or just hot air. Then you solder your regular ATtiny on top. Total height should be around 3.5mm



***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

Released Drivers: 17mm/20mm/26/27mm *single-sided* DD/FET driver [AxxDD-SO8] **||** 17mm 8x7135 with Zener & dual-PWM [A17PZL] **||** 22mm 16x 7135 driver [A22-7135]

WIP Drivers: 17mm double-sided & 20mm+ single sided 4Amp+ linear driver [A17LDX] **||** 17mm+ single sided DD driver w/ low parasitic drain [A17DD-LDO?] **||** *15mm* single-sidedDD+single-7135: LFPAK33 FET driver with one 7135 for moonlight mode **||** 17mm *single-sided* DD+single-7135: FET driver with one 7135 for moonlight mode **||** 17mm DD+7135: linear regulated driver w/ FET turbo **||** 15mm Low profile DD driver with big FET [A15DD-SO8] **||** *On Hold: 17mm QX5241 5Amp 1-4 LED 2-4s Li-Ion Buck driver*

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Sat, 06/07/2014 - 22:31 #48

wight
Offline

Last seen: 1 hour 24 sec ago
Title: ★★★★★
Joined: 11/27/2013
Posts: 4180
Location: Virginia, USA

comfychair wrote:If they are

> ***comfychair* wrote:**
>
> If they are sense resistors, which component on the board is reading their voltage drop? If the LTC1871 were controlling the modes I could see it, but we know it's not. It looks to me like it just boosts up to whatever set point, then the path to ground is routed through the appropriate resistor via each mode's little FET.
>
> The big cap between the inductor & the LTC1871 is on the main B+ pad on the R/H side, its L/H side goes to a longish fat trace that goes down to a medium size cap, the thing marked 82LE, and a tiny cap. There's a big horizontal B+ trace at the top of the inductor. Easiest seen in this pic:

So as to this stuff…

My bad on sense-vs-limit. Now that I think about it I'm *not* certain that they aren't limiting resistors. At this point I could go either way, without a schematic it's hard to guess. Gotta figure out what's hooked up to the

SENSE pin to know for sure. This thing can do a weird sensing setup as well as a more normal one. I'm not certain they aren't used for sensing, but I'm leaning towards you being correct.

Thanks for the clarification on that path, I see it now. The LH side of that cap is a ground of some type, even if it's not real GND. The medium sized cap you mentioned hooks up to INTVcc (pin8), so it must be a smoothing cap for that. (Therefore the other side, which connects to the big cap, is ground).

Is the mode separation as good with the MT-G2 as it is with a triple?

***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

Released Drivers: 17mm/20mm/26/27mm *single-sided* DD/FET driver [AxxDD-SO8] || 17mm 8x7135 with Zener & dual-PWM [A17PZL] || 22mm 16x 7135 driver [A22-7135]

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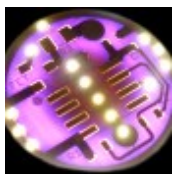
Sat, 06/07/2014 - 23:08 #49

comfychair



Offline

Last seen: 12 weeks 2 days ago
Title: ★★★★★
Joined: 01/12/2013
Posts: 5873

Just from memory, I think the

Just from memory, I think the output currents were something like just a few mA in low, .25A in M, 1A in H, and 1.5A turbo. Of course now we know what they do, those levels can be adjusted with different resistors. I don't know how that compares to when it's running the 3S XPG2s, though.

...

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Mon, 07/07/2014 - 21:52 #50

wight

Offline

Last seen: 1 hour 24 sec ago
Title: ★★★★★
Joined: 11/27/2013
Posts: 4180
Location: Virginia, USA

Sorry, now I forgot what I

Sorry, now I forgot what I planned to learn from that.

Anyway I went ahead and put an outline on that adapter PCB and uploaded it to Oshpark. It has to be slightly large in order to meet minimum size restrictions, you can file it down.
~~http://oshpark.com/shared_projects/WtKCjCqt~~ EDIT: see post #57

I also thought about putting a via through the middle of each pin. You'd need to file up to halfway through the via, but it would make the board easier to hand solder.

***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

Released Drivers: 17mm/20mm/26/27mm *single-sided* DD/FET driver [AxxDD-SO8] || 17mm 8x7135 with Zener & dual-PWM [A17PZL] || 22mm 16x 7135 driver [A22-7135]

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Sun, 06/08/2014 - 13:14 #51

zeremefico

may day may day

just burnt my driver, bridging the r120.
one of the two mcus, that they are on the spring side, burnt.
If I try to power again the flashlight, this mcu burns again.
I measured 11 amps on high with a KK 26650.

Offline

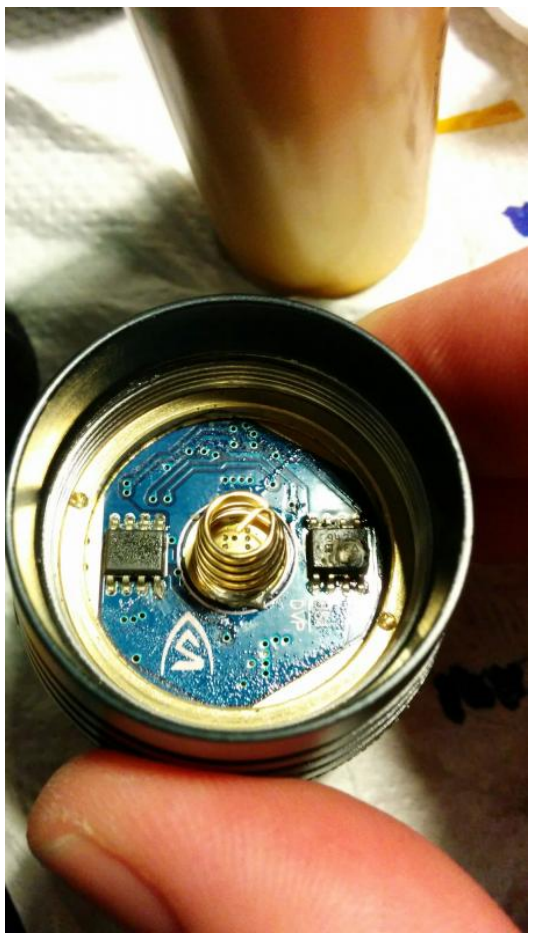
Last seen: 30 min 40 sec ago

Title: ★★★★

Joined: 03/27/2012

Posts: 806

Location: Greece



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₪₪₪₪ ΟΥΔΕΝ ΚΡΥΠΤΟΝ ΥΠΟ ΤΟΝ ΗΛΙΟ ₪₪₪₪

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Sun, 06/08/2014 - 13:25 #52

wight

zeremefico wrote:just burnt

Offline

Last seen: 1 hour 24 sec ago

Title: ★★★★★

Joined: 11/27/2013

Posts: 4180

Location: Virginia, USA

> ***zeremefico* wrote:**
>
> just burnt my driver, bridging the r120.
> one of the two mcus, that they are on the srpung side, burnt.
> If I try to power again the flashlight, this mcu burns again.
> I measured 11 amps on high with a KK 26650.

Those are FET's, not MCU's. They are just in the SO8 package.
I only know the model information for one of those two. It seems you are lucky, you burned the one we know about.

Digikey has it in stock:
http://www.digikey.com/product-detail/en/AO4468/785-1038-1-ND/1855980

eBay is probably much cheaper for you, luckily there are plenty on there:
http://www.ebay.com/sch/i.html?_trksid=p2050601.m570.l1313.TR11.TRC1.A0….

EDIT: fixed Digikey link.

WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits *~~old teaser thread~~

Released Drivers: 17mm/20mm/26/27mm *single-sided* DD/FET driver [AxxDD-SO8] **||** 17mm 8x7135 with Zener & dual-PWM [A17PZL] **||** 22mm 16x 7135 driver [A22-7135]

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Sun, 06/08/2014 - 13:21 #53

zeremefico

Offline

Last seen: 30 min 40 sec ago

Title: ★★★★

Joined: 03/27/2012

Posts: 806

Location: Greece

Thanks, is there any which

Thanks, is there any which can handle the extra current?

₪₪₪ ΟΥΔΕΝ ΚΡΥΠΤΟΝ ΥΠΟ ΤΟΝ ΗΛΙΟ ₪₪₪

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Sun, 06/08/2014 - 13:38 #54

wight

Offline

Last seen: 1 hour 24 sec ago

Title: ★★★★★

Joined: 11/27/2013

Posts: 4180

Location: Virginia, USA

zeremefico wrote:Thanks, is

> ***zeremefico* wrote:**
>
> Thanks, is there any which can handle the extra current?

Possibly, but I don't think it's a good idea. 11A is 30-35W from a single 26650. 11A looks like it's pretty rough on a KK.

We don't really understand how this driver works. Swapping FETs could cause big problems. That said, maybe a PowerPAK SO8 style FET would be a good choice. For example, the SIR462DP can handle more current and has much lower RDS(on) figures than the stock FET. You'd have to take a look at what is under the FET and make sure that you weren't bridging anything. I wouldn't do it.

WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits *~~old teaser thread~~

Released Drivers: 17mm/20mm/26/27mm *single-sided* DD/FET driver [AxxDD-SO8] **||** 17mm 8x7135 with Zener & dual-PWM [A17PZL] **||** 22mm 16x 7135 driver [A22-7135]

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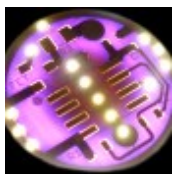
Sun, 06/08/2014 - 18:33 #55

comfychair



Offline

Last seen: 12 weeks 2 days ago

Title: ★★★★★

Joined: 01/12/2013

Posts: 5873

AO4468 is also used on other

AO4468 is also used on other drivers, most common one is probably the 3-toroid SRK drivers. If you have any dead drivers laying around it's worth a look.

edit: Also, I doubt there is any other FET out there that will survive having the resistor bridged. Being a boost driver, the input current isn't self-limited by the LED voltage like in a DD setup, and that's why these same parts survive fine in other driver designs but not in this one.

...

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Sun, 06/08/2014 - 18:36 #56

wight

Offline

Last seen: 1 hour 24 sec ago

Title: ★★★★★

Joined: 11/27/2013

Posts: 4180

Location: Virginia, USA

comfychair wrote:AO4468 is

> ***comfychair* wrote:**
>
> AO4468 is also used on other drivers, most common one is probably the 3-toroid SRK drivers. If you have any dead drivers laying around it's worth a look.
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> edit: Also, I doubt there is any other FET out there that will survive having the resistor bridged. Being a boost driver, the input current isn't self-limited by the LED voltage like in a DD setup, and that's why these same parts survive fine in other driver designs but not in this one.

Yeah, don't bridge the resistor

My comments on replacing the FET were not intended to facilitate bridging the resistor, just decreasing the resistance. It's still not a great idea either way, as I mentioned.

***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

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Mon, 07/07/2014 - 21:07 #57

wight

Offline

Last seen: 1 hour 24 sec ago

Title: ★★★★★

Joined: 11/27/2013

Posts: 4180

Location: Virginia, USA

wight wrote:Funny you should

> ***wight* wrote:**
>
> Funny you should mention that. I worked on this some but decided it was a stupid idea. You have to reflow the adapter PCB onto the main PCB of course – either a big hoof tip or some chipquick might do OK, or just hot air. Then you solder your regular ATtiny on top. Total height should be around 3.5mm
>
> http://photo.jesusthepirate.com/blf/misc/ATTINY_TO_PIC.PNG

I got confused when making these adapters. Do not use them, they are clearly wired wrong. I knew better than to do this and did it anyway – oops. I'll re-attack the problem and get it right next time.

***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

Released Drivers: 17mm/20mm/26/27mm *single-sided* DD/FET driver [AxxDD-SO8] || 17mm 8x7135 with Zener & dual-PWM [A17PZL] || 22mm 16x 7135 driver [A22-7135]

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Mon, 07/07/2014 - 22:00 #58

wight

Offline

Last seen: 1 hour 24 sec ago
Title: ★★★★★
Joined: 11/27/2013
Posts: 4180
Location: Virginia, USA

OK, v04 -> v06. Now the

OK, v04 -> v06. Now the adapters should be functional, but after that last mistake I wouldn't trust me if I were you.

I didn't bother to keep track of what order the pins are in now compared to where I **thought** they were with the previous version of this adapter. They are in the order that was easiest for me to route while still making GND and VCC connections. So the firmware I posted above (and never tested of course) may need some tweaks to work with this board. Pins 2, 3, 5, 6, & 7 are all straight through. Pin #1 on the ATtiny (PB5) goes to the location of Pin #4 on the PIC (GP3).

https://oshpark.com/shared_projects/n7bBCqsn

***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

Released Drivers: 17mm/20mm/26/27mm *single-sided* DD/FET driver [AxxDD-SO8] || 17mm 8x7135 with Zener & dual-PWM [A17PZL] || 22mm 16x 7135 driver [A22-7135]

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Wed, 07/09/2014 - 20:52 #59

wight

Offline

Last seen: 1 hour 24 sec ago
Title: ★★★★★
Joined: 11/27/2013
Posts: 4180
Location: Virginia, USA

I think there is no interest

I think there is no interest in running STAR on this light using the stock levels, but for the record I think the latest firmware I posted has an error. It looks like I forgot to set "RUN_PIN" to output along with the MODE_X pins.

***WTS* Lux-Pro 2D MT-G2 8xAA HIGH-current e-switch Conversion Kits** ~~*old teaser thread*~~

Released Drivers: 17mm/20mm/26/27mm *single-sided* DD/FET driver [AxxDD-SO8] || 17mm 8x7135 with Zener & dual-PWM [A17PZL] || 22mm 16x 7135 driver [A22-7135]

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Thu, 07/10/2014 - 00:42 #60

nofearek9

Offline

Last seen: 14 hours 51 min ago
Title: ★★★★
Joined: 07/08/2012
Posts: 779
Location: Cyprus

its nice that you can tune

its nice that you can tune each mode separate ,if you glue a small piece of copper on top of the chips zeremefico exploted might solve the problem?

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