Here is a solar charger circuit that is used to charge Lead Acid or Ni-Cd batteries using the solar energy power. The circuit harvests solar energy to charge a 6 volt 4.5 Ah rechargeable battery for various applications. The charger has Voltage and Current regulation and Over voltage cut off facilities.

**Solar Charger Circuit**

Posted by P. Marian in Power supply, Solar | 275 comments

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Here is a solar charger circuit that is used to charge Lead Acid or Ni-Cd batteries using the solar energy power. The circuit harvests solar energy to charge a 6 volt 4.5 Ah rechargeable battery for various applications. The charger has Voltage and Current regulation and Over voltage cut off facilities.

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The circuit uses a 12 volt solar panel and a variable voltage regulator IC LM 317. The solar panel consists of solar cells each rated at 1.2 volts. 12 volt DC is available from the panel to charge the battery. Charging current passes through D1 to the voltage regulator IC LM 317. By adjusting its Adjust pin, output voltage and current can be regulated.

VR is placed between the adjust pin and ground to provide an output voltage of 9 volts to the battery. Resistor R3 Restricts the charging current and diode D2 prevents discharge of current from the battery. Transistor T1 and Zener diode ZD act as a cut off switch when the battery is full. Normally T1 is off and battery gets charging current.

When the terminal voltage of the battery rises above 6.8 volts, Zener conducts and provides base current to T1. It then turns on grounding the output of LM 317 to stop charging.

Related Circuits

1. Solar based Multipurpose Charger circuit
2. Solar Inverter Battery Charger
3. Solar Charger Monitor circuit
4. DIY Solar Birdhouse Light
5. Simple Solar Lamp circuit
275 Responses to “Solar Charger Circuit”

1. Jamal Bakir says:  
   January 16, 2010 at 8:37 pm

   Please….send to me a solar charger…output 12V/4Ah  
   secuit schematic

   Reply

2. D.MOHAN KUMAR says:  
   January 17, 2010 at 3:01 am

   Poorly-rated. Like or Dislike: [4]

   Hidden due to low comment rating. Click here to see.

   Reply

   delta says:  
   September 15, 2011 at 1:03 pm

   d mohan can i use this circuit diagram to charge a laptop? and can i add a voltage divider in this circuit a 16,19 and 21 volts output? can you help me

   Reply

   Johann Uys says:  
   December 2, 2011 at 1:53 pm

   Sir

   I want to use it to charge 3.6v Lith-Iron battery but can not get it to switch of at required voltage of 3.6 volt.

   I am using 12v input voltage.
Regards
Johann

Reply

Johann Uys says:
December 2, 2011 at 2:39 pm

Also not possible to start the unit up with a battery with say 2 volts
Please help
Johann

Reply

sudip says:
December 4, 2011 at 9:39 am

plz reply how make inverter 200va-300va

Reply

Lineesh says:
December 30, 2011 at 9:27 am

Dear sir,
i am thinking about a project to make a virtual aquarium in which fishes move by an electro-magnetic field, could u plz help me to design a circuit?

Reply

Lineesh says:
December 30, 2011 at 10:01 am

Dear sir,
I would like to know how can i use wind energy to charge a li-ion battery during travel. Is there any possibility to replace the solar cell with a small fan and a generator, could u plz reply me to mallotusphilipensis@gmail.com, am looking forward

Reply

manideep says:
February 19, 2012 at 9:31 am

dear sir i got only 7.63 voltage out put.if i bypass R3 then any problem?
i am building a mini wind turbine for my senior project motor out put is 14. 3 volts and 3.73 amps, so my question is can i use this circuit to charge a 12 volts car battery

This circuit is very useful, I have not found any other shut down that do not use relay or dedicated chip, Thank you !
I am concerned by the life time of my batteries: can you tell how to adjust the max current with this circuit ?

My 18V mobile charger Solar panel used to charge when the sun is present. but now it is not working when I try to charge it in USB. For your details info. My solar panel is 18V/40mA, LM7805 Voltage regulator and in USB.
Thank you for your help.

D Mohan Kumar — I am also looking to use this with an output of 12 volts. I used a 12 volt Zener, however, i’m still getting only 6.9 volts with 12volts input. I checked and the output leg of the 317 is reading 7 volts. Are you sure this should work? Do we need to change the 317 to something else?

This may be due to the input voltage. Usually zener requires 2 volts higher than its breakdown point. If it possible, increase the input using 16 volt solar cell. Also adjust VR correctly to control the output voltage. As a test, remove solar cell and
connect 14 volt power supply. If output is OK, then the problem is with the solar cell. The output of solar cell will not be steady. That is why I designed the circuit for 6 volts using 12 volt solar cell.

---

**Piyush says:**

February 3, 2012 at 2:15 pm

Dear, I’m looking for solar cell powered (3S) lipo charging circuit. do this work as it is or you suggest another for “lipo” as there are 3 cells in series?

---

**manideep says:**

February 19, 2012 at 9:33 am

sir my input voltage is 18v dc but still output voltage not more than 7.63 v DC.

---

**johnjogs says:**

February 21, 2012 at 4:22 pm

Hi Manideep,

You can adjust your output voltage by replacing your ZD (zener diode) to 12V and adjusting the VR (variable resistor) until your output voltage increase to 12V, the variable resistor is connected at adj pin of LM317. Hope this will help to your problem.

---

**Aquílno says:**

February 16, 2010 at 2:17 pm

I want to assemble a solar powered 8 LED light box with light sensor circuit. I have currently assembled a 4 LED with 4vdc 60mA solar panel and a charge circuit. This Circuit is charging 3 AA 1.2v 2.100mAh Batteries. Will I have to built another charge circuit for more batteries and 8 LED’s?

---

**Aquílno says:**

February 16, 2010 at 2:20 pm

Can you please assist me with a circuit diagram.
7. **Aquilino** says:
   February 16, 2010 at 2:25 pm

Charge circuit at present consumption: 2.5mA (standby in sensor mode) 80mA (working in sensor mode)

Reply

8. **D.Mohankumar** says:
   February 16, 2010 at 3:20 pm

There are solar charger circuits in the same site. Click on my name and see the postings

Reply

- **rashid** says:
  October 5, 2011 at 11:46 pm

Hi sir im a biomedical engineer i wana make a solar circuit myself so help me plz im from pakistan karachi

Reply

- **norozi** says:
  February 26, 2012 at 8:15 am

Hello dear
I’m looking for 6/12volts 10/55A ENGINE CHARGER STARTER . PLEASE HELP ME TO FINDOUT ELECTRONIC SCHEMATIC AND WIRING
BEST REGARDS .
A.NOROZI

Reply

9. **Arvince** says:
   March 12, 2010 at 5:01 pm

Please construct to me the circuit of 12v dc servo motor and how to control the speed, heat sensor circuit and solar charger circuit. i need immediately before end of this month.

Reply

10. **Bang Ming** says:
    March 12, 2010 at 8:37 pm

Electroschematics.com/4746/solar-charger-circuit/
What if I have different component ratings? How should I customize my circuit? Since I am using a 7.5 V solar panel, 6V battery 4 Ah. What is the optimum values of components? Thank you.

Reply

11. D.Mohankumar says:
   March 13, 2010 at 2:21 am
   
   You will not get sufficient voltage from a 7.5 volt panel to charge 6 volt battery. Use 12 volt panel. The components remain same

Reply

12. D.Mohankumar says:
   March 13, 2010 at 2:24 am
   
   Heat sensor and solar charger circuits are in electroschematics.com. Search by name. Servo motor circuit will be posted soon

Reply

13. Arvince says:
   March 14, 2010 at 10:32 am
   
   i have project which is automatic vehicle wiper..when heat sensor detact the heat, the heat give signal to servo motor to rotate..then, in case if the batteries didn’t not have to much volt to make servo rotate, so i’m use solar cells circuit to support volt and ensure the wiper up… can Dr. please give help me to provide circuit? thank for you cooperation

Reply

14. richard solway says:
   March 15, 2010 at 9:21 pm
   
   how about a blocking diode to prevent discharge during darkness.

Reply

15. richard solway says:
   March 15, 2010 at 9:26 pm
   
   whoops my bad. i coughed and missed the bit about d2. d’oh. keep up the good work.

Reply

16. hari ahir says:
   March 18, 2010 at 8:33 am

electroschematics.com/4746/solar-charger-circuit/
i have solar pannel and output of this is 10v. how can i use it for making mobile charger????

Reply

D.Mohankumar says:
March 18, 2010 at 11:01 am

See the posting Solar based Multipurpose Charger. Mobile charger is included in it. Use that part only with 10V solar panel

Reply

polter says:
March 25, 2010 at 9:32 am

good day Mr. D. Mohan Kumar, for this circuit diagram, can i have the component ratings so as to purchase online. I’m new to this field, please pardon my question. i.e., i don’t know what is LM317 and VR1K.

my panel is 43Watts [Isc 3.3Ampere & Voc 18Volt] and battery is rated 12Volt, 17Ampere-hour, is it applicable for this circuit?

could you please email me @ polt525@yahoo.com

thanks & regards,
polter

Reply

NISHANTH CHENNAPPA says:
April 17, 2010 at 7:14 pm

SIR I want a battery charging circuit for 10w solar panel which is having a variable output voltage from solar panel (input to battery charging circuit is ) 5V-24v to charge a battery i need a circuit design which gives a constant output voltage 15v(output from battery charging circuit) could u please mail the circuit to nishanthsjbit@gmail.com

Reply

manu_alld says:
May 12, 2010 at 2:28 pm

sir,
i am so impressed by your projects, thanks for devoting your precious time.

I want to make a solar powered light, how do i get a solar panel in India, is there any online shop which can provide the panel.

Also it would be of great benefits to new visitors if you mention the price of solar panel on your site itself.

Thanks again for your great work.
manu

Reply

D.Mohankumar says:
May 12, 2010 at 4:04 pm

Ready made Solar panels are available in India. Its cost may range between Rs.800 for 6V 3W panel to Rs. 2800 for 12V 10 W panel. Visit the website of Gala electronics, Mumbai. Catalog can be down loaded

Reply

manu_alld says:
May 14, 2010 at 1:54 am

Thanks Dr. Mohan, I found the site vegaitindia.com and i remember i used to learn thru their kits about 20 years back.

thanks again

Reply

Prasanth Nair says:
November 26, 2011 at 8:34 am

Dear Sir,
Ready made Solar Panels of 2W & 6W 6Volts are available in espareonline.com
Price is 350.00 & 399 Rs only

Regards,
Prasanth Nair

Reply

esraa says:
May 22, 2012 at 6:00 pm

I want your email to Arusselk
Iam student for m.sc in the iraq for the solar cell

can you help me if asked/you
if you can send the replay to my mail

Reply

NISHANTH CHENNAPPA says:
May 23, 2010 at 1:26 pm
sir in the given above circuit will not indicate the over charge of the battery. due to this after the complete charge of a battery, the battery will be still charging. this will affect the life of the battery. is there any comparator circuit that indicates the over charge and stops charging the battery. if there is low battery starts charging automatically.

Reply

22. D.Mohankumar says:
May 23, 2010 at 2:14 pm

I have posted some charger circuits with cut off facility. You may go through the postings. I will post a circuit using comparator soon

Reply

bala selvam says:
March 10, 2012 at 7:18 pm

Respective sir i’m doing IInd year EEE … i’ve so much interested in projects … and i have started one … in that a 12v 5w solar panel is giving the supply… can i use any other source instead of that of the same power

Reply

ankit says:
June 15, 2010 at 5:47 am

hello sir….i m ankit from India…can u plz mail me all circuits which u have…actualy i have a great interest in electronics…and wsnt to do inventions…so i request u all to mail me circuits with theory u have…. lovely.ankit@gmail.com
Plz mail me circuits and programming based projects also….plz keep on forwarding me as u get new updates on Electronics…it can be any….thnx….

Reply

Grace says:
August 17, 2010 at 8:27 pm

Hi, thanks for sharing this circuit! I have built it, but I’m not sure how to test it. When I connect a multimeter across the place where the batteries should be, the reading is in mV. Is that normal? And is it ok if I use NiMH batteries instead of NiCD batteries?

Reply

Eason says:
August 23, 2010 at 3:46 am
Hi Grace, Is the circuit working properly? Everything is working fine?

D.Mohankumar says:
August 18, 2010 at 6:01 pm

Measure the output voltage in 20 volt range of DMM after placing the solar panel in bright sunlight. NiMH battery needs proper monitoring. You can use the same

Grace says:
August 18, 2010 at 7:40 pm

Thank you so much for your reply Sir. If I set up an LED at T1 to blink when the battery is charged so that the user can remove the batteries, will that work? How do I set a 20 volt range for DMM?

Eason says:
August 23, 2010 at 3:40 am

Hi Sir, i am currently working on a solar garden light project. I need a charge controller circuit to power some 6 LEDs of 20mA, 1.9V. Also i need to protect my battery from overcharge. Can this circuit meet all my requirements? If not what modifications can be done to meet my requirements?

Thank You
Eason

sam says:
February 18, 2012 at 11:52 pm

pleas Dr Muhankumar i have 12 volt solar panels give 19 volt in sun shine and i wont to charge 6 volt battery can you advise me
best regards
sam

Yugan says:
September 10, 2010 at 7:14 am

Hi Mr. Mohan, I’m planning to use 2 solar cells to charge a 6V 4.5Ah Battery. Here I have 2 packages of solar cells,
(1) 2 pieces of 6V 100mA solar cells and
(2) 2 pieces of 0.2W 5V solar cells.

Which package of solar cells would u recommend if I’m gonna use the above charger circuit? Any additional advice plz?

Reply

- Yugan says:
  * September 10, 2010 at 7:44 am

And what is the model for the ZD? And is the 180 R for R1 means 180ohms?

Reply

- muppana vinay kumar says:
  * October 24, 2010 at 11:19 pm

obviously you should use the 1st one since the current is more than the 1st one but i think that this is not enough for u to get the sufficient driving current for the battery if u use 3 cells the it will be easy………

Reply

- Yugan says:
  * November 21, 2010 at 8:43 am

Thank u very much.

Reply

- BALUBHAI KAMANI says:
  * September 11, 2010 at 11:31 am

technical know how for solar chargers circuits.solar panels solar led lamps

Reply

- Vidura says:
  * September 22, 2010 at 2:21 pm

dear sir,

I am stuck at my final year project. I need a charging circuit to charge the 6V lead acid battery in our design. And this circuit is just fine for that. But the problem is that the solar pannel we have is just 6V. How can I change this circuit so that I can use the 6V solar panel instead of 12V solar panel?

Reply
6 volt solar panel is not sufficient to charge a 6 V battery since the voltage level depends on the intensity of sunlight. Try to construct the circuit and measure the voltage from the panel. If it is more than 6V, you can use it, then change the value of ZD to 4.7 volts.

mr Alimi A.W says:
September 24, 2010 at 6:14 pm

i want to design solar mobile charger for my final year project, i want you to put me through. i shall be grateful to see your favorable response.

Ali says:
September 28, 2010 at 1:48 am

Hi! I am using an 18V solar panel to charge a 12V 1.2 Ah battery… what zener diode (ZD) should I use?

AK says:
September 28, 2010 at 2:12 am

Hello! What is the output current for this circuit (during charging time)?

dear sir, we are doing the project on solar charge controller circuit. can we charge the lead acid battery of 12v by using the
12v, 20watt solar panel with the solar charge controller circuit, if possible what we have to change with the above diagram.

36. Sanjib says:  
**October 25, 2010 at 6:06 pm**

Hi,
I don’t understand the purpose of T1, ZD and R2. LM317 itself can fix the o/p voltage to a particular value and you already have the register R3. Also as the battery is being charged from solar panel (assuming it low wattage as otherwise it will be an inefficient use for 4.5AH battery charging). I am charging a 7AH 12 volt battery with a solar panel and LM317 (without the T1, ZD, R2) it works just fine.

37. small eye says:  
**November 11, 2010 at 3:13 pm**

I would to make battery charger by using 3 input; AC, DC and Solar source… i need some advise from you guy…..

38. shuraj says:  
**November 15, 2010 at 7:52 am**

Hi sir,
I am impressed with your schematic diagram for solar charger. I want to know what I need to change in this circuit if I want to charge a 12 volt/1.2A rechargeable lead acid batter.

39. shuraj says:  
**November 15, 2010 at 10:09 am**

I have another question. I am using three 6volts solar panel which has current of 0.1A each. Can it be used to charge a 12Volts 1.2Ah battery.

40. shuraj says:  
**November 15, 2010 at 11:16 am**

If I want to insert a LED Light in the circuit to indicate it is charging where is the best place for me to insert the light?
You can insert an LED with 1K series resistor at the output of LM317 before R1. Make sure that output is sufficient to drive the charging circuit and LED. LED takes 1.8 volts. If the output from LM317 is more than 10 volts, LED can be placed.

If the solar panel is giving 18 volts (6×3), replace ZD with a 12 volt zener. All the components remain same. Usually zener requires 2 volts excess than its rated voltage to enter into breakdown state.

ok thanks sir. Can I at the same time connect any load the battery while charging. If yes how do i do it?

Well i would i like to connected a LM35 temperature circuit and also 2 servo motors rated 4.8V. Will it be possible?

Possible if the battery is fully charged.
if i put two batteries in a serie it will be charge both of them?

45. **D.Mohankumar** says:
   
   November 18, 2010 at 4:29 am
   
   It is better to charge the batteries individually. If one battery is old, internal resistance of the battery will reduce the flow of current.

46. **William** says:
   
   November 19, 2010 at 5:42 am
   
   Dear D.mohankumar,
   
   I’m interested in build your circuit. But i can only find 5.5 and 6.5 volt solar panel in my place. So, i’m trying to build it by using 5.5 or 6.5 volt solar panel and 3.6 baterry.If i want to change the solar panel into 6 , and 3.6 baterry, what should i change in the circuit??

47. **D.Mohankumar** says:
   
   November 19, 2010 at 2:01 pm
   
   Dear Mr.William
   
   The circuit is designed for 12 volt panel. If 6 volt panel is used, there will not be sufficient output voltage from LM317. More over the circuit itself consume some power.So that sometimes the battery will not charge.An alternate way is to connect the solar panel directly to the battery through a IN 4007 diode. Observe polarity during connections.Diode will drop 0.6 volts.So that 5.4 volt will be available.3.6 volt battery requires more than 2 volt excess for steady charging.But auto cut off facility will not be available.

48. **norozil** says:
   
   January 29, 2012 at 7:02 am
   
   hello dear
   
   i’m looking for inside diagram of 55/10/2 ampere 12v engine starter and battery charger ciecuit.
   
   please help me
   
   best regards

49. **Baby Nite** says:
   
   November 20, 2010 at 2:29 pm
hi Mr. D.Mohankumar, may i know what is the use for the wire joining from junction below ADJ to the junction at between R1 and the collector of T1???

D.Mohankumar says:
November 20, 2010 at 5:22 pm

Dear Mr.Baby  
The adjust pin of LM317 voltage regulator is used to adjust the output fro the device. In the circuit the Adj pin is connected to the collector of T1. As long as the terminal voltage of battery is below 6.8 volts, zener remains off to keep T1 off. When the battery voltage increases to 6.8 volts, zener breakdown and provides base current to T1 and it conducts. This pulls the adj pin to ground potential and drains the output to ground. This stops charging.

Baby Nite says:
November 21, 2010 at 11:25 am

but then isn't that the fully charged 6V Lead Acid Battery is 6.3V? will the voltage of battery raise to 6.8V?

william says:
November 21, 2010 at 6:30 am

thx for replying my question before, but i have 1 question in my mind. How if i use this battery in this project to light a white led??

shabeer ali says:
November 28, 2010 at 7:28 pm

i want to design solar mobile charger for my final year project,i want you to put me through. i shall be grateful to see your favorable response.

D.Mohankumar says:
November 29, 2010 at 3:43 am

Give the concept. I will help you
Sir i would be more than happy if you could assist me with this project i’m working on.the thing is i’m stuck and need your help.which solar panel do i need to charge 3V battery and how do i make the charging to automatically stop when the battery is full and charge again when its almost empty?pliz help…

Hello
You can use this circuit with slight modifications.Use 12 volt 5 watt solar panel. Increase the value of VR to 4.7 K. You can adjust the output voltage through VR.Measure the voltage after D2 and adjust VR till it drops to 5 volts. Replace R3 with a value for required current at 5 volt using ohms law.Replace 6.8 volt zener with 3.1 volt zener.Experiment with the circuit and get result.

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54. **rehima** says:
   
   December 12, 2010 at 1:18 pm

   hello

   please brief description why u use the above value of resistor and type of transistor

   Reply

   ○ **D.Mohankumar** says:
   
   December 12, 2010 at 2:51 pm

   Hello Rehima

   During a circuit design, usually the value of the resistor is determined based on the current passing. Ohms law will help to select the resistor. General purpose transistors are used depending on the current handling capacity

   Reply

55. **Justin James** says:
   
   December 13, 2010 at 12:17 am

   Hi Sir

   Excuse my ignorance, but I seem to be misinterpreting something. If R3 is 10ohms and the charge voltage from the LM317 is 9V, then I assume the charge current is 0.9mA. I am confused as to the power rating of only 1W for R3? Please advise me as to where I am misinterpreting the circuit. Thank you for your patience.

   Reply

   ○ **D.Mohankumar** says:
   
   December 13, 2010 at 3:48 pm

   Dear Justin

   Suppose the output from LM317 is 9 volts. If the output current is above 1 Amps then 9/10 = 0.90 Amps. That is 0.90 x 1000 = 900 Milli Amperes. You can use 1W resistor as R3.

   Reply

   ○ **Justin James** says:
   
   December 13, 2010 at 4:44 pm

   Thank you for your response, I apologize, I did mean to say 0.9Amps and not 0.9mA. However I am still confused, I thought that the required power rating for the resistor had to take the 10ohms into account. I thought it came from P = I^2 * R = IV (0.9A)(9V) = 8.1W.
Dear Justin

1 Watt resistor can handle up to 1 Amps current

Justin James says:
December 13, 2010 at 5:25 pm

Thank you very much for making that clear, I still have alot to learn!

kind regards
Justin

Chinmoy Mitra says:
January 7, 2011 at 8:49 am

Dear Sir, I beg to differ from your explanation. What Mr. Justin James has written is absolutely correct. He has quoted Ohm’s law, and according to that, the power dissipation in a resistor is dependent on the current squared multiplied by the VALUE of the resistor. Saying that “1 Watt resistor can handle up to 1 Amps current” does not make any sense electrically. For example, a current of 1 Amp will cause a power dissipation of 1 watt in 1 ohm, 10 watt in 10 ohm, 100 watts in 100 ohm etc. I hope this shall clear Mr. James’s doubt.

JK says:
December 13, 2010 at 4:42 pm

Hi Sir, I am conducting a project for my leaving cert in school and I was wondering if you could help me. I want to have a model house with L.E.D. lights and switches, fake sockets and a fan which would be powered by a 9 volt battery. It would show different circuits, e.g. radial and ring circuits. It would also be interruption resistant. How could I use a set up like yours to charge the battery with a solar panel but stop it being overcharged? And also allow to L.E.D.’s, fan, etc be powered? Thanks very much for your time, I hope you can help me.

Reply

D.Mohankumar says:
December 13, 2010 at 5:18 pm

Dear JK
For simplicity use 2 circuits. Use the solar charger circuit for charging battery. Use the MINI EMERGENCY LIGHT
posted in the site for automatic working of LEDs. In that circuit, a relay should be connected in the place of White LED. Remove the LED and series resistor and connect a 6 volt 100 ohms relay with IN4007 protecting diode. You can connect all the loads to the relay.

Reply

57. Sheldon says:
December 14, 2010 at 3:38 pm

Hi Sir
I have adjusted your circuit to charge a 3.7V battery, could you advise whether or not my changes are sufficient:
R3 is 22 Ohm resistor
ZD is 3.9 V zener
LM317 is outputting 6 V
using 1N4001 diodes

thank you for your time

Reply

D.Mohankumar says:
December 14, 2010 at 6:04 pm

Dear Sheldon

Try your circuit. Value of R3 depends on your current requirements. All other parts OK

Reply

Sheldon says:
December 15, 2010 at 6:14 pm

Hi Sir
I tried the circuit, the LM317 output was 6V before connecting the 3.9 V zener and transistor switch (and 2.1 V after connection of zener and switch), then when I put a 3.7V cellphone battery that was running flat across the charge terminals, the circuit does not charge it. Would the zener rating have to be higher perhaps, because I know that cellphone batteries still read approximately 3.7V when your phone tells you that they are flat? Please advise, thank you.

Reply

D.Mohankumar says:
December 16, 2010 at 8:29 am

Dear Sheldon

Usually the zener requires 2 volts excess than its rated value to complete its breakdown. For example, if you use 3.9 volt zener, input should be around 6 volts. That part is OK. The problem is the charging voltage. Usually the rechargeable cells (1.2 volt) requires 2 volts per cell to accept charge. Mobile phone battery is rated 3.6 volts (Three 1.2 volt cells in series). So minimum 5 volt is required to charge...
it. Use a 4.7 or 5 volt zener. The problem will be rectified

Sheldon says:
December 16, 2010 at 9:58 am

Hi Sir
I thought that 4.7 V would overcharge the battery and be harmful? Also, could you advise where I could look to find information on charging 12V batteries with high AH ratings, through a 75W panel that has optimum of 17.5V and 4.29A operating conditions? Is there a voltage regulator and transistor combination I could use in this circuit to achieve and handle the approximately 4A of current for this, as I understand the LM317 can only output 1.5A?
Thank you very much for all your help and advise.

D.Mohankumar says:
December 16, 2010 at 4:53 pm

Dear Sheldon
This circuit cannot be used for high current charging. For that search for solar charger circuits in the front page of this site. I have posted some circuits. The charging current is minimum irrespective of the battery AH. See, the charger of inverter with 150 Ah battery uses 15 volt and 2 amps current. Usually during the initial stage, battery consumes around 1-2 amps current which drops to 500 ma or less during the remaining hours.

beni says:
December 18, 2010 at 1:21 pm

for 12v battery charger what would be the value of resistor on the previous value i checked the circuit but does not work and how to calculate the power and the current

D.Mohankumar says:
December 21, 2010 at 2:34 pm

Dear Beni
Read the comments and reply in the post. You will get an idea.
Sir,
We want to charge a 12V 7 Ah battery through a 12V 5W solar panel. We have a two step PWM charge controller. Can you please provide a simple but a very reliable circuit with the following specifications:
1. One green indicator should light up when the battery is charging
2. If the battery voltage drops to 11V (off load / on load) then red indicator should light up along with a beeper
3. If the voltage drops below 10V then the output should go on and off continuously with one second gap
Thanks and regards,
Kumar

Reply

D.Mohankumar says:
December 21, 2010 at 2:33 pm

Dear Kumar
I will post a circuit you mentioned. To charge a 12 volt battery, an 18 or 20 volt panel is necessary to give steady input voltage. Since the current in the panel depends on the incident light, a higher value panel is preferred.

Reply

Kumar says:
December 21, 2010 at 2:44 pm

Thanks Mr.Mohan for the quickie. The panels are giving about 18 to 21V even in moderate light. So the probability of chances to satisfy your requirement is quite high. Also the charge controller is designed for handling input voltage from 9V to 22V with a steady output of 14.4V the charge the battery.

Reply

D.Mohankumar says:
December 21, 2010 at 2:52 pm

Dear Kumar
What is purpose of on/off the output continuously when the voltage drops below 10 V.Is the output current to battery, or the beeper circuit.What is the use of PWM in low voltage level.Please clarify. First two parts are easy.

Reply

Kumar says:
December 21, 2010 at 3:10 pm

Dear Mohan,
The purpose of on/off of the load (here LED light) is to warn that the battery is going deep discharge and the load is to be disconnected ASAP. In fact a relay should be better but in most times it will totally disturb the work especially if the work is under completion. Here the output to load is to be made with this arrangement. The PWM may not be useful in low voltage level but being a two step PWM the boosting and bucking nature was found to be more advantageous.
Dear Mr Mohan, Hope you remember the discussion. I am very much in need of the circuit which provides a low voltage indication @ 11.5 WITH OR WITHOUT the load. Hope you will provide a solution soon.

sam says:
February 19, 2012 at 12:32 am

Dear Mr Muhn Kumar
i have 18 volt solar panels 5 watt i wont to charge battery 12 volt 7 ah for one day and i used it at night for led light do i need charger controller and why and i think their is some calculation with solar power and battery capacity to prevent over charging pleas can you advice me thanks allot
best regard sam

Pulkit says:
January 6, 2011 at 11:50 am

Sir,
I have adjusted your circuit for 3.7V battery. Does the value of R1, R2 and transistor T1 remain same?

prakash says:
January 7, 2011 at 8:02 am

sir , i am 2nd year student and i want to make this circuit. can i?

Jay says:
January 7, 2011 at 4:33 pm

Hi

I am designing a solar panel jacket where I can charge mobile phone, mp3 etc. I am using 3.6v 100 ma solar cells. I don’t know what sort of circuit diagram I will need. Can you help me please.
Thank you very much.

Reply

64. Zulker nien says:
January 8, 2011 at 9:48 am

Sir I want to make a charger circuit that will charge a 3.6 V battery of mobile phone. To do that we need 5V and 350mA output of charger circuit. On the other hand I have a 12V 10W solar panel that I will use.

Can I implicate this circuit? What change is needed? I am thinking some, but there are some key problem.
R3 is 17 Ohm resistor.
As my current is 350 mA, can I use .5 watt resistor?
What will be the ZN? 3.9 V or 5 V? and why?
Is diode 1N4007 or 1N4001 and why?
What about VR to get 6V output?

Reply

65. khoo says:
January 20, 2011 at 3:22 pm

hi sir,
if i use four 1.2V rechargeable battery in series on the battery holder, izzit can work??
thx

Reply

66. newbie says:
January 27, 2011 at 6:47 pm

hi sir,
why is the value of zener diode 6.8V?
since the total voltage of battery is 6V?

Reply

67. sasikala says:
January 29, 2011 at 10:26 am

hello sir,iam sasikala DC signal is high frequence or not.pls response me sir.then what i8s AC and DC signal.

Reply

s.h.reddy says:
July 4, 2011 at 11:56 pm
Hallo sasikala.
Flow of electrons is called electrical current.
If an electrical current flows only one direction from source say battery to the load say a bulb it is called DC current and the frequency is Zero hertz.
if an electrical current flows first in one direction and reverses its direction in the next moment say in one second time it is called AC and and frequency !htz/sec and if the direction reverses 50 times in one sec then the frequency 50 htz, if the direction reverses 1000 times in one second then the frequency 1khtz

D.Mohankumar says:
January 29, 2011 at 3:49 pm

Hello Sasikala
Are you asking the general property of DC /AC. Please give in detail

Dhananjay says:
May 14, 2012 at 10:21 am

Dear Sir
Can I use this circuit for solar panel of 17 v & 11 watt & for 12 v with 7 Ah battery. what changes need to do in the ckt. please help.

kanase amar says:
January 31, 2011 at 12:29 pm

sir i have 2 watt solar panel.i want a solar charge controller circuit for it.

zulkernien says:
February 5, 2011 at 8:42 am

Sir I implemented the circuit but it does not work or can not able to recharge mobile phone. On the other hand it terminated my mobile phone..........how funny your circuit is!

idrus says:
February 9, 2011 at 10:22 am

sir, can i connect a load to the battery? if yes how do i connect it? thank you for your time sir..
ram neupane says:
February 11, 2011 at 5:46 pm
hello
i have problem in calculating time to charge battery by solar pannel battrey of 12v and solar pannel of 120wp.what should be the vaule vr , zd and r1 in above circuit

priyanka says:
February 14, 2011 at 1:16 pm
hello
i am preparing a solar helmet ,my requirement is for a flexible solar panel.i am searching for a flexible panel supplier from last few weeks but i am unable to get it.can you suggest me if there is some one who can provide me with 6V,5W or 6V,3W solar panel.

sanjay says:
February 17, 2011 at 11:15 am
yes i know i m engineer dear

Ben says:
February 15, 2011 at 11:03 pm
Hai sir , can i use this circuit to charge lipo battery , 7.4v and 1300mAH safely.

al, el, dul says:
February 17, 2011 at 3:26 am
yes,,, nooo,,, i like this

Yash Y Ashok says:
February 19, 2011 at 10:19 am
Sir

How can I make a 19V 2.1A output with this same circuit for my laptop. Please help me

Reply

Jay says:
February 21, 2011 at 4:29 pm

Hi

I am making a solar panel circuit in order to charge mobile phone and Ipods. I don’t know wheather a lm 317 voltage regulator is acceptable. my desired utput voltage is 5v. I am using two panels which produce 8.6 volt. Please help.

Thanks

Reply

raviteja says:
March 9, 2011 at 4:38 pm

hello sir

i builded this circuit on a general board
the voltage across R3 is 9.46V but the battery is still not charging
please help me the current required to charge ??
the battery i am using is lead-acid battery with 6v 5Ah rating
please help me out sir

and last question

current produced by my solar panel is 100mA is that enough ??

thanks in advance

Reply

fazle haq says:
March 12, 2011 at 4:41 pm

i have battery of 3.7v,1200mAh,4.5wh…so how to arrange it.plz tell me

Reply

Ravik says:
March 13, 2011 at 6:15 am

raviteja, your current is too low. Normally u need 5A x 10% = 500mA to charge your battery, and this 500mA current
might take around 10 hours to fully charge your battery, imagine how low is 100mA.

fazle, if your battery is 3.7v, i not sure what is the fully charge voltage, i assume is 4V. So u need to adjust the output voltage to become higher than 4V + 0.7V(diode) = > 4.7V. I assume is 5V.

By using the LM317 formula, Vout = 1.25(1 + R2/R1), so u just adjust the VR will do

If your fully charged battery is 4v, then put a zener diode which is 3.9V standard value. 1W, 3.9V zener diode will be 1N4730

---

**amira** says:
**March 15, 2011 at 5:49 am**

Hi Sir!
Good day to you. I already build the circuit. The output is in milivolt. Actually i need to charge 4 NiMH AA batteries with 20V 1A solar panel. Could you assist me to build the circuit. Another one is that, i need to know the battery arrangement in order to make the battery equally be charged. If possible, could you email me.

---

**shreddy** says:
**April 28, 2011 at 7:26 am**

Though its simple, LM317 is used as series Regulator and the efficiency of the circuit is very very low. Instead switching regulator can be used where the power wastage is minimum and so the efficiency is increased to 80 to 85%.

---

**ajeya.b** says:
**April 28, 2011 at 1:17 pm**

can you please mail me how to do a solar charging circuit for a 9v battery which is used drive 2 dc motors....

---

**rogen** says:
**April 30, 2011 at 3:17 pm**

sir, please help me in making my project. A battery charger with an input of 220volts ac and an output of 10 volts dc, 1.3 amp.

---

**richesh bhargava** says:
**May 16, 2011 at 12:29 pm**
hello sir i want lay out of solar charger circuit of o/p 6v

Reply

86. shannukha says:
May 23, 2011 at 4:44 pm

hello sir ,my project is solar based mobile charger , i have a problem with while charging the mobile “bad contact of charger” is occured. iam using 6v ,150mill amps solar panel . what is the problem and give the circuit for this.

Reply

87. rock says:
August 12, 2011 at 7:06 am

i hav the samwe problem.. it says bad contact of charger. why so?

Reply

88. Shamu says:
June 3, 2011 at 6:19 pm

I have what is perhaps a stupid question. I bought a 2 feet by 1 foot solar panel (I think it is rated at 15 watts / 1 Amp) which is marketed as a 12V kit(Sunforce 50033 15­Watt Solar Charging Kit). I put the output of the solar panel into a cig lighter female jack, and plugged my car cell phone charge into this jack. This worked fine – the open circuit DC voltage was like 19 Volts but dropped down to 10-12 Volts when charging @ about 1 – 3 watts of power – most of the time. I then used the solar panel to charge a deep cycle marine battery (using a charge controller). Then things started to go haywire.

First) After charging the 12 V Deep Cycle battery for a while, I connect the cell phone charger to the battery and heard a ‘pop’. Is this a no – no? I was assuming it would work since the cell charger works in the car.

Second) I bought a couple of extra car cell chargers for use with just the solar panel (Not the marine battery anymore) since it appears to fry things . Charging then through the solar panel seems to break them after a while, though the fuses don’t blow and the light on the charger remains lit, plus, the cell phone still charges when connected to a wall jack. I have noticed that the voltage sometimes goes up to 14 or 15 volts when charging the cell phone. Is this too high? Is this caused when the cell phone is almost charged and is not drawing much current? Could this be breaking something in the charger?

Thank you in advance if you take the time to try and answer any part of this question. I am just starting to gain practical knowledge working with solar and will do my best to pass on any wisdom I gain.

Best Regards,

Shamu

Reply

88. Peter says:
July 2, 2011 at 12:34 am

0
hellow sir,what are the stepes i can follow to charge my (8 eight) 12V battery connected in sieres.

Reply

89. **praveena** says:
**July 2, 2011 at 1:08 pm**

hellow sir,i am praveena i had done this mini project of charging the Nicd battery it is successfully working but i have to give a demo on 20th of july and i dont understand the proper function of resistor R3 and diode D2 please give me the complete explanation of it.

Reply

90. **dinesh** says:
**July 2, 2011 at 4:21 pm**

Hello, sir am looking for a circuit which enables the battery only yo be charged if the voltage from the solar is high exp, in the range of 13 to 18 only… at the same time the circuit including to stop and start charging of battery when its full…

Reply

  * **Kumar** says:
    **July 2, 2011 at 4:28 pm**

You need a PWM charging charging circuit. We have a buck / boost circuit. Pl visit [http://www.srisms.com](http://www.srisms.com)

Kumar

Reply

91. **Titilope** says:
**July 6, 2011 at 1:06 pm**

I want to design a solar charger. please give circuit diagram for 5v, 10v,18.5v , 19v, 20v. thanks

Reply

92. **Peter** says:
**July 7, 2011 at 3:08 pm**

Please send me a circuit diagram of dynastarter

Reply

93. **jeyatheepan** says:
hello sir,
i need 12v1a solar to 12v12amH battery chcher cuir cuir cuir
tinue please help me

Reply

robin says:
July 31, 2011 at 9:25 am

hello sir, i want to make a mobile charger. can i use this circuit provided that i change the input voltage to 6V and the zener diode to 4.7v? i will leave the other components the same. Is that possible?

Reply

Jose Luis says:
August 3, 2011 at 11:31 pm

hello sir, its my first time in posting something here, so my question is: could use this circuit to charge Li-ion batteries?? i'll wait for ur reply… thanx…..

Reply

udyog says:
August 9, 2011 at 4:04 pm

Dear Sir i want course module of 45 days training on Mini Solar lamp Assembling, latten , kindly suggest me where i can get raw material in cheaper price. This project is very much important for the poor people in orissa which can help them. waiying for kind reply

Reply

D.Udhaya raj says:
August 16, 2011 at 7:13 pm

sir,
i bought a solar panel (6v 200ma) and i would like to charge the 3v 1600maH.
so pls suggest me to do any modification in your circuit….
thanks in advance

Reply

tjk varma says:
August 26, 2011 at 9:26 am
can u pls mail me a 6V solar mobile charger circuit.??

**Reply**

Udhaya Raj says:
August 26, 2011 at 12:27 pm

Ya sure sir …
may i know your mail i’d plz

**Reply**

José Vieira says:
August 29, 2011 at 5:36 am

Please, D. Mohankumar, you can use this circuit to charge a Lithium battery 3.7V and 2.400mAh?
Thank you very much
José Vieira
28/08/2011-23:27h
Aparecida, São Paulo, Brasil

**Reply**

Joe Siklosi says:
September 2, 2011 at 7:14 pm

Dear Mr. Mohankumar:

I would like to build a charger that basically would charge one or two nine volt rechargeable batteries by ten volt solar panel(s).

Would it be more efficient to use switching regulators instead? What solar panels should I use to provide adequate charging current for charging?
Do I have to select such panels with maximum short circuit currents? By what percentage from the solar panels’ short circuit currents shall I be able to utilize the most efficient charging currents from the solar panels?

I await for your reply!

Sincerely,

Joe L. Siklosi

**Reply**

Assadbeigi says:
September 3, 2011 at 11:54 pm

Hi.
I want to use this charger for a 6 Volt lead acid 1.2 AH. Please help me for change. Thank you.

Reply

102. **Assadbeigi** says:  
September 4, 2011 at 12:00 am

Hi again and 1 more question. Would you please help to use a LED showing in charg mode?

Reply

103. **Gautham** says:  
September 6, 2011 at 4:08 pm

Thanks a lot mohan sir i have constructed your solar panel circuit and its working great …. !!!!! Thanks A LOT

Reply

104. **Gautham** says:  
September 6, 2011 at 4:10 pm

Thanks a lot mohan sir i have constructed your solar panel circuit using 6v solar panel and its working great …. !!!!! Presently I am using That power to my mini speakers …. !!! Thanks A LOT

Reply

105. **KARTHIK** says:  
September 7, 2011 at 9:08 am

THANK U WE DID IT IN OUR INTERCOLLEGE COMPETITION.ITS WORK PERFECTLY...................WITH 12VOLT SOLAR PANEL.

Reply

106. **Leo** says:  
September 8, 2011 at 3:53 am

Hello…

Thanks for the article. Could it work for lower input voltages (6V instead of 12)and output of 2-5V by changing the zener diode to 2-5V?
King regards

Gautham says:
September 8, 2011 at 1:24 pm

Well i tried using a 6v solar panel and it was working great .... !! I think the zener diode used as a cut off .... !! for me i dint require a cut off .. just to complete the circuit i used a zener diode

Lesaane says:
September 9, 2011 at 2:20 pm

Please help, I have a 14V solar panel, It was working before, but the diodes inside burnt, and now it does not charge the battery, but I can watch a tv and drive a 12v-240 inverter using it, but it cannot charge the battery.

does it mean that if I use this circuit it will charge the because it still provide 14v but it can not charge the battery.

please help.

RAKESH says:
September 11, 2011 at 7:01 am

tell me the cost of total project of solar charger circuit, and also tell me the i am working in 200w so there it not working. pls give me the ckt diagram of load 200w and price list

sanjeeva says:
September 13, 2011 at 9:00 am

sir I want to design a 12 V solar charger. please give circuit diagram for, my solar penal is 40 w and 17 v

shasi says:
September 14, 2011 at 2:40 pm

Sir, I have two solar panel one is of 16V and other one of 21 volt output. I want both the panel to boost up charging current, so please tell me, if any modification is required in your ckt diagram. I want to redesigned the ckt to charge 12V and 80 to 100AH battery. Thank you
Udhaya Raj says:
September 14, 2011 at 6:36 pm

Hello shasi,
you asked about boosting up the charging current right okay fine…
i think i can help you in this
can u please answer my question?
1.current rating of both solar panels ?
2.correct battery AH?
3.type of battery?
i mean (lithium cell or ni-cd cell or lead acid cell)

Reply

shasi says:
September 15, 2011 at 12:49 pm

Thank you for your reply. My solar panels are of 50W each, battery is of lead acid cell 150Ah.

Reply

Udhaya Raj says:
September 15, 2011 at 8:17 pm

hello shasi,
the battery you mentioned here is 12V 150Ah.
then it takes 10Hrs to charge when supplied with 15A…
and your solar pannel can’t deliver that much of High amps.

so there’s only two way
1.reduce your battery Ah
2.You must add solar pannels to attain your battery current

Reply

shasi says:
September 16, 2011 at 11:51 am

is there any changes required to make in the given ckt.

Udhaya Raj says:
September 16, 2011 at 12:01 pm

ya many more changes required…. bcoz the current you needed is quite high
Udhaya Raj says:
September 16, 2011 at 11:57 am

ya shasi….
many changes needed,
and that is for smaller rating with less current.
but you are aiming for high current….

Reply

shasi says:
September 17, 2011 at 1:23 pm

Can you please send me the modified ckt to my mail id or share to this website. Thank you

udhaya raj says:
September 17, 2011 at 7:33 pm

shash,
Without knowing the solar current battery rating and some more calculation are there,
without knowing those thing you can’t design a circuit or modify the circuit ….
Itz like a blind watching a cinema so if you ready to give the specific rating i sure i can help you if
not i’m sorry i can’t

shasi says:
September 19, 2011 at 2:50 pm

Solar panel rating: 3nos of 17V, 200W.
Battery: 12V, 150AH.

MIN says:
September 15, 2011 at 8:08 am

Hi Sir,
For the above original circuit, as it had been mentioned above, the output of regulator is set to 9V. And the breakdown
voltage of zener diode is 6.8 volt. So, wouldn’t the zener diode already allow the reverse current even before it start
charging.
Please help me understand the circuit. Thank you.

Reply
RAKESH says:  
September 15, 2011 at 8:40 am

what is the price of 12v solar palan in kolkata

Reply

asha says:  
September 17, 2011 at 10:34 am

pls give me a circuit diagram and working of fire alarms using solar panel.

Reply

J.Vieira says:  
September 23, 2011 at 5:56 am

I ask everyone: You can use 7815 instead of the LM317 in this circuit? Thank you.

Reply

suma says:  
September 27, 2011 at 7:22 am

what is the cost of solar panel in this circuit?sir

Reply

zaty says:  
October 1, 2011 at 10:08 am

do you have solar charge controller circuit?

Reply

Allen Paul says:  
October 4, 2011 at 12:11 am

Dear Sir, thanks for answering our questions. Please, i need your help. I built this circuit but is not working as expected. My transistor is conducting even when I have no battery that is being charged.Considering the the charging voltage which is 9V, its greater than 6.8V and should actually turn on the base of the transistor. If ZD is going to conduct when the battery that is being charged gets above 6.8, why shouldn’t 9V conduct. I may be wrong. thanks.
Dear sir,
kindly suggest me a circuit to build a solar charger for study lamp in which i wants to glow 4-8 LED’s for 3-4hrs what should be the rating of all equipments so that i can do the same. also a circuit.
thank you

i need circuit diagram for solar car using PIC..can u help me sir

Dear Mohankumar,
I have a 2v solar panel and a 12v 100Ah Deep Cycle battery. What type of Charge controller should i make to constantly charge the battery? I want to use the battery for operating LED lights in my house.Can you kindly give me a circuit diagram so that i can make my own Charge Controller? Thanks in advance.

[...] Lead Acid or Ni-Cd batteries using the solar energy power. The circuit harvests solar energy to char

what can i add to this circuit to make it great because im using it fot the final project and i changed the circuit to make it better but i need to add more like another circuit(i need help).
**gauresh** says:
November 6, 2011 at 5:11 pm

dear mohan kumar
i need solar mobile charger using 3-4 volt solar pannel. can u help me. . . . . .

Reply

**Theo** says:
November 7, 2011 at 5:23 pm

hi Guys

I am new to this and trying to charge 5 x 1.2 volt batteries whilst running a 6 volt motor at the same time, but cannot get the batteries to run at the same time. So what it is the panels run the motor whilst charging the batteries and when the sun dissapears it runs the motor from the batteries.

Does anybody have a schematic i can use for this… I will be greatly appreciated.

Reply

**D.Mahesh** says:
November 8, 2011 at 2:37 pm

Please….send to me a solar charger…output 12V/80Ah …. voltage from solar panel(input to battery charging circuit is ) 75v to charge a battery i need ….. to find information on charging 12V batteries with high AH ratings, through a 75W panel

Reply

**colin crayton** says:
November 12, 2011 at 8:13 pm

Hi

Could you advise me what to change in the circuit for a solar panel of 6v, charging a lead/acid of 4v

Many Thanks

Colin

Reply

**omar** says:
January 17, 2012 at 8:41 pm


hi

i would also like to know what changes are needed to have a 6v solar panel and a 4v battery. also if used 6v solar panel and 6v battery what would change.

thanks

Reply

127. Abhishek says:
November 23, 2011 at 3:24 pm

Sir,i want to make solar home light system.in which 3 watt led bulb 3nos and one fan can work. Please suggest me about panel,charge controller,batteryand also tell me the circuit of making 3watt led bulb.

Reply

128. Chris says:
November 25, 2011 at 6:43 pm

Hi. I have a game camera that operates on 6 volts. I have installed a 6 volt rechargeable battery to power the camera and a solar panel that has a power rating of 0.63 W and a charging voltage of 9.0 volts. The camera takes about 40 pictures weekly and the battery seems to hold a charge for a week or so but the charger seems to not be trickle charging the battery. I have installed the same setup on a feeder that operates two times daily and the battery is always 100%. If I build this circuit, will it work to maintain the camera fully like the feeder?

Chris

Reply

129. Jose Vieira says:
November 26, 2011 at 3:21 am

D Mohan Kumar – Please, can i use batteries Li-Ion (Lithium) 3.7V to load in this circuit? Thank you.

Reply

130. Prasanth Nair says:
November 26, 2011 at 8:29 am

Dear Sir,
Can we use the circuit for charging of 4V 4.5 Ah SMF battery which is commonly used in Led Lanterns (3.6V 3W led) If possible what changes to be made
Please reply
Regards.,
Prasanth Nair

Reply

131. Johann Uys says:
December 2, 2011 at 2:38 pm
Sir
I can not start it up with a reasonably flat battery - 2.0 volt.
Please help
Regards
Johann

132. chris says:
December 15, 2011 at 4:14 pm
at how many amps will be the charge? what will I do to change the charging current? change the value of R1?
Thanks

133. Jose Vieira says:
December 18, 2011 at 1:55 am
Please, this circuit can use Lithium?
Thanks to all

134. anil pawar says:
December 18, 2011 at 9:12 pm
hi sir,
I am impressed with your schematic diagram for solar charger. I want to know what I need to change in this circuit if I want to charge a 12 volt/1.2A rechargeable lead acid batter.

135. harshad says:
December 19, 2011 at 7:10 pm
Hi sir,
please tell me the function of DIODE 4007 in detail.

Regard
harshad patel
Gnaneswar says:

December 24, 2011 at 5:23 am

Sir….

I am on my project to make solar powered bicycle. I am using 12v dc 200rpm motor to drive the cycle. Is 12v dc lead acid battery is enough to run this motor? If so which solar panel is required to charge this battery. Please help me, i am mechanical student and weak in electronics. This is urgent. Please. My email address is ngnaneswar@gmail.com

Reply

Abubakar Musa says:

December 26, 2011 at 11:58 pm

Dear Sir,

Please I have a 2KVA inverter that is using 24VDC, please i need your advise on how to make this circuit charge the batteries, below is my proposal;

1. change the solar panels to 24v
2. change the zener diode to at least 9V

Best regard,

Reply

hiren kanadia says:

January 5, 2012 at 11:29 am

Sir, i need a solar charger solution with hi low voltage cut off for 6v 4.5 ah battery, which charges the battery speedly.

Reply

Vicmi says:

January 5, 2012 at 1:54 pm

Hi!
I want to charge a 26 volt battery with solar panels, but I have more than one solar panel.

I have seen that you replied to a another person that he can change the Zener to adapt the circuit to a battery o 12 volt. Can I do the same? I mean, change the zener of the circuit to a 26 volt Zener in orden to charge a 26 volt battery

Reply
Honestly, i must commend u for ur good compositions and constructions,especially for this one. I want to ask if u can sustitute the solar for AC?. Which of course u know would need u to rectify.

Mr.D.Mohankumar I’m gonna do a mini project on solar bt charger for mob phone.can you precisely give me the requirements?

sir can i make portable solar charger by this circuit.plz help me about portable solar mobile charger.

Sir
I am planning to do a mini project on mobile phone chargers using solar cells
Sir would you please help me out with circuits.
And sir wat will be the efficiency of such chargers

sir , will you post me a circuit having ability to convert the 0.7v (output from solar cell) to 3.0v please send me a circuit regarding.
thank you…
J.Vieira says:  
January 15, 2012 at 6:58 pm

Please, you can use 3 lithium battery in series in this circuit? Thank you.

james says:  
January 16, 2012 at 8:27 am

sir,

does this circuit really works? hope it will and thanks by the way.

regards,

james

Brian Kumz says:  
January 17, 2012 at 10:26 am

Dear Mr. D

I am a final year student and i would like to do a solar project which its concept is rooted from the problems rural hospitals are facing. I am new in the solay systems and i thereby seek your help in transforming my concept into reality. My email is; mayizab@yahoo.com.

My regards.

mr-jass says:  
January 17, 2012 at 4:32 pm

Sir can u help me to make a solar mobile phone charger! is it possible by modifying this ckt or by other ckt plaese help me if any one else can help contact me on e mail id erjaswantsingh165@gmail.com

can we use 12 volts 1 ampere transformer in place of solar cell says:  
January 18, 2012 at 3:33 pm

can we use 12 volts 1 ampere transformer in place of solar cell to charger the sla battery of 6 volts 4.5 ampareas
vijay kumar sharma says:
January 21, 2012 at 8:22 am

Where I can get 12 volt solar penal

Reply

Prveen says:
January 21, 2012 at 8:28 am

You can get Solar panels from http://www.espareonline.com
it is very economical & high Quality

Praveen

Reply

Jamestec says:
February 4, 2012 at 9:34 pm

Hello, I’m needing a PWM controller that can handle a 24volt array of up to 5000 watts. Do you have any schematics for that?

Reply

VARATHARAJ says:
February 5, 2012 at 1:51 pm

HELLO SIR,
I AM VARATHARAJ AM DESIGNED INPUT 12VOLT,10WATT PANEL. OUTPUT 12VOLT AM CHARGED 9AH BATTERY SO I HAVE A VALUES FOR THE RESISTORS PLZ I GOT A CIRCUIT DIAGRAM.

Reply

chhaya says:
February 5, 2012 at 5:48 pm

sir,when there is prob. of sunlight then to store previous energy of light for continous charging purpose what we have to add?????

Reply

Khetex says:
February 7, 2012 at 8:52 am
Please…send to me a solar charger…output 12V/4Ah secuit schematic

Reply

156. Pradeep says:
February 11, 2012 at 8:06 pm

Sir,
Can you please email me 6V solar charge controller circuit diagram. I have a 3 Watt panel that gives 8 volt . I need to charge 6V , 5 Ah battery.

Thank you,
Pradeep

Reply

157. chandrahas says:
February 13, 2012 at 7:21 am

I have 10w module. Want 12 v /1amp current ckt please sire mail me

Reply

158. Moh.Adeil says:
February 14, 2012 at 4:59 pm

Hello D.Mohankumar ,
regarding the above circuit , will it give a constant output if we consider that solar input is variable 0-12v. plz feed me back i need to make sure that the solar charging circuit gives a constant output that can charge a 6v rechargeable battery .Thanks

Reply

159. Amit says:
February 15, 2012 at 6:59 pm

How would I change it to charge a 3.7V mobile battery??

Reply

johnjogs says:
February 21, 2012 at 4:37 pm

Hi Amit,
try to change the rating of the ZD (zener diode) to 3.7V.

Regards.

Viraj says:
February 23, 2012 at 6:53 am

Hi, i am wondering to how many batteries we can charge through this project, is it that only one battery can be charged at a time, i wish to charge around 4 batteries, Is it possible

gopalakrishnan says:
February 23, 2012 at 9:37 am

hi friends,any one complete solar project give your ph no

lisa says:
February 24, 2012 at 12:39 am

I believe this circuit is a constant voltage output… not constant current. R1 and VR1 setup a voltage divider circuit to set the output. the circuit will not output more than 1 Amp. the Series Resister(R3) will also limit the current. Set VR to voltage 2 volts higher then what you need… then make sure the Zener diode is the voltage you actually want. You are setting VR (Regulator output) voltage to be 2 volts higher then Zener Diode Rating. Depending on Zener Diode Tolerance, it can be as low as .7 volt above the regulator output before the Zener Diode starts to conduct.

lisa says:
February 24, 2012 at 12:45 am

http://www.cirkits.com/ has a solar controller that is a kit..
http://www.solorb.com/elect/solarcirc/scc2-orig/index.html

has on that is 6 – 12 and 24 volt kit.
Kit is discontinued but you can still build if you have the proper skills and understanding.

argiya george says:
February 25, 2012 at 6:12 pm
sir, i want to know that, can we utilise the wind get when train running, as the power for train? plz reply to the mail ID sir

---

165. norozi says:
February 26, 2012 at 8:21 am

HELLO EVERY BODY
I'm LOOKING FOR A 6/12V 2/10/55A ENGINE STARTER AND BATTERY CHARGER ELECTRONIC SCHEMATIC AND WIRING.
IS THERE ANY BODY ON THERE TO HELP ME PLEASE?
I'm WAITING FOR U.
BEST REGARDS.

---

166. Tarak Roy says:
February 26, 2012 at 9:23 pm

Sir,
I have 75w x 3 solar pannel and 150ah 12v battery. what can change in this circuit to charge the same battery.
please suggest me.....
Thanks...

---

167. ishaan kakar says:
February 27, 2012 at 6:50 am

dear sir
can i use the same circuit for charging a Li-ion battery 3.7v, 900mAh with the use of a solar panel

---

168. Gerry says:
March 1, 2012 at 1:12 am

As a complete newbie, find the diode direction on this circuit to be a bit confusing. With the diode between the power and the IN pin of the ICI how does the power get through t if placed i the orientation it is?...or have I got something wrong in my head regarding shematics?

Thanks

---

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As a complete newbie, find the diode direction on this circuit to be a bit confusing. With the diode between the power and the IN pin of the ICI how does the power get through if placed in the orientation it is?...or have I got something wrong in my head regarding schematics?

Thanks
G

nitish says:
March 10, 2012 at 6:52 pm

how can i increase the current level
“I have 12v solar panel and a charger which charges the nokia phone batery but of battery 1800mAh cant chared by it ” so what to do “

Rein says:
March 12, 2012 at 5:56 am

Hello and good afternoon. I’m making a solar powered automatic water pump.
The motor of my water pump could deliver 6 to 12V and i am wondering how do i connect the solar power to the water pump? and do i need a battery charger too.

Arun Kulkarni says:
March 17, 2012 at 11:58 am

Dear Sir,
I am interested to make electronic useful mini projects (Circuits), but i dont know where from i get the required components (spare parts)like Different IC’s, LDR, Relay etc. Can u help me, how to get electronic basic spare parts. ie(Supplier Address & Telephone no.)
P l mail me on arunakulkarni_2006@rediffmail.com

Thanks in Advance
Arun Kulkarni

WTF says:
March 18, 2012 at 9:38 pm

LOL
sir, i want to charge 220 volt battery, then how much capacity solar panel should i use, for home requirement..
i wnat to connect 2batteries in series and invert it to homely use sir, please guide…

 [...] more detail information regarding the Lead Acid or Ni-Cd Battery Charger Circuit Diagram here (reference: electroschematics.com) This entry was posted in Circuits and tagged Battery Charger, [...]

Dear Mr.D.Mohankumar,

I’m make 6V Battery Circuit, can you send me any small size PCB design Circuit.

Tahir

Dear sir .Can you help me in designing a solar charger for mobile cellphones with a lamp and a torch using a 12v solar panel as our supply

hiii hari i am satish from kamataka city bellary i want to make some electronics experments i need ur help please help me…… contact me 9611678969
Please….send to me a solar charger…output 12V/4Ah and 12V/7Ah secuit schematic

Reply

180. Santosh says:
April 2, 2012 at 11:20 am

Hi,

Can you help me with IC for a charger for a 12V battery which will charge from solar panel (12V or appropriate voltage) which will drive 2 fans working with 12 V DC, 0.5 Amp for 8 hours.

regards,
Santosh

Reply

181. SUHAIL says:
April 3, 2012 at 9:34 am

RESPECTED SIR
HOW TO COMBINE SOLAR CHARGER CIRCUIT AND MOBILE TRAVALLING CHARGER CIRCUIT? PLZ HELP ME ANY TIPS TO CONSTRUCT SOLAR MOBILE CHARGE VIA BATTERY?

I WAITING FOR YOUR LOGICAL INSTRUCTION....

Reply

182. fatih says:
April 3, 2012 at 12:19 pm

Hello everybody,

I want to use thic circuit for charging 12v/1.3 Ah battery. Therefore i have some questions:
1-Can i set(adjust) the charging current? for example:130 mA because 1.3 x %10=130 mA
2-I want to interrupt the charge process when the battery voltage reaches 14.4 volt. So Which value has to be the zener diode? is 14 volt suitable?

Reply

183. Titi says:
April 4, 2012 at 3:19 pm

Sir, how can i modify the circuit to be able to charge 2 laptops and 3 phones. Please help me
Sir, How to make an auto cutoff charge for 4v battery? Pls help me…

Sir, can u pls mail a circuit diagram, which shows the charging of battery as well as direct connection of motor from solar panel. Also when battery will full charge it will automatically cut the connection & motor directly run by solar panel. Pls help..

Sir, I want 60 watt solar panel to 12v inverter battery charger controller circuits, please send me

Sir, I have a solar power module 12v 130 watts, it is ok im using solar battery 12v 100ah?

Hi Marlon,

Yes you can use your solar battery on that rated.

Regards,
Fammie says:
April 21, 2012 at 5:32 pm

I need to design a portable weigh device with digital output, bluetooth and usb interface. Weighing as low as 10g and as high as 20kg. Help me with a circuit Sir.

Reply

jr says:
April 21, 2012 at 7:05 pm

Mr. Kumar,

I have 48VDC input inverter (220VAC output)
can you provide me how many solar panel required and its wiring diagram.

Reply

johnjogs says:
June 20, 2012 at 9:35 am

Hi Jr,

you need 100pcs of solar cell with 0.5V output and connect in series. For wiring search on google engine, there’s a lot of schematic you can use.

Regards,
john

Reply

jr says:
April 21, 2012 at 7:15 pm

hi, pls include the solar charger circuit

Reply

azohar says:
May 3, 2012 at 4:53 am

Dear sir,
I was made that solar charger circuit, i want ask some question sir, where the right place to put LED for a sign when battery is charge or not.

Hope you can help me sir.
sir i need solar pannel.where it available.pls mail to me.arrond pondyor chaennai

what is the voltage of the capacitor and rectisors

pls send me .....battery ckt diagram for connect 12v battery from 18v solar pannel

Sir,
how to connect variable resistor in circuit. it has three terminals. i have connected one to adj pin, middle pin to collector of transistor, another pin to negative. is it correct Sir?, my circuit gives maximum 8.2 v sir. i am beginner of electronics. help me sir

i wanna charge super capacitor along with the battery by the solar panel can anyone help me to this…
Hello, Mr. D. Mohan. I had made a auto battery charger and I want to joint solar panel with it, so can u tell me the circuit requirement for that task.

Reply

Nel says:
July 8, 2012 at 4:28 pm

How about the output battery 12v 7Ah? just change zener diode to 12?

Reply

tenis says:
July 11, 2012 at 3:49 pm

What the price for a 12volts solar panel

Reply

Apple says:
July 11, 2012 at 7:59 pm

Why this LM317 do not need any capacitor on it?

Reply

Jape says:
July 13, 2012 at 10:12 pm

This is totally bullshit. You burn the charge in LM317. A peak power tracker is needed and a LTM series regulator would be nice in between the output of the peak power tracker and the battery.

Reply

Adelusi Tosin says:
July 14, 2012 at 12:31 pm

Thanks for sharing your knoweldge, sir, changing the value of zener from 6.8 to 20v, could this work to charg 12v 85A battery or if there is any adjustment in this circuit that would charge

Reply

Tare says:
July 18, 2012 at 6:24 pm
I used to use my solar charger which I connected with LM7805 and USB. Now when I connected it with my both mobiles. It is not working. But when I charge it by USB from my Laptop it does work. Can someone tell me what the problem is? Is something can destroy in my mobiles?

Many thanks in advance

T

204. anil tyagi says:
July 19, 2012 at 9:46 am

dear sir, i want a charger circuit of solar panel for home lighting. Actually my charger has been burn which is used at home and i am doing B.TECH so i want to do a project on solar panel. sir please mail me a circuit of charger with some important details.

so please sir help me.

205. bernard says:
July 23, 2012 at 2:39 pm

kindly post one to caharge a 12V 70A battery

Leave a Reply

Name (required)

Mail (will not be published) (required)

Website

Go to gravatar.com if you want to display a picture associated to your email. It will apper next to the comment you write bellow.

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