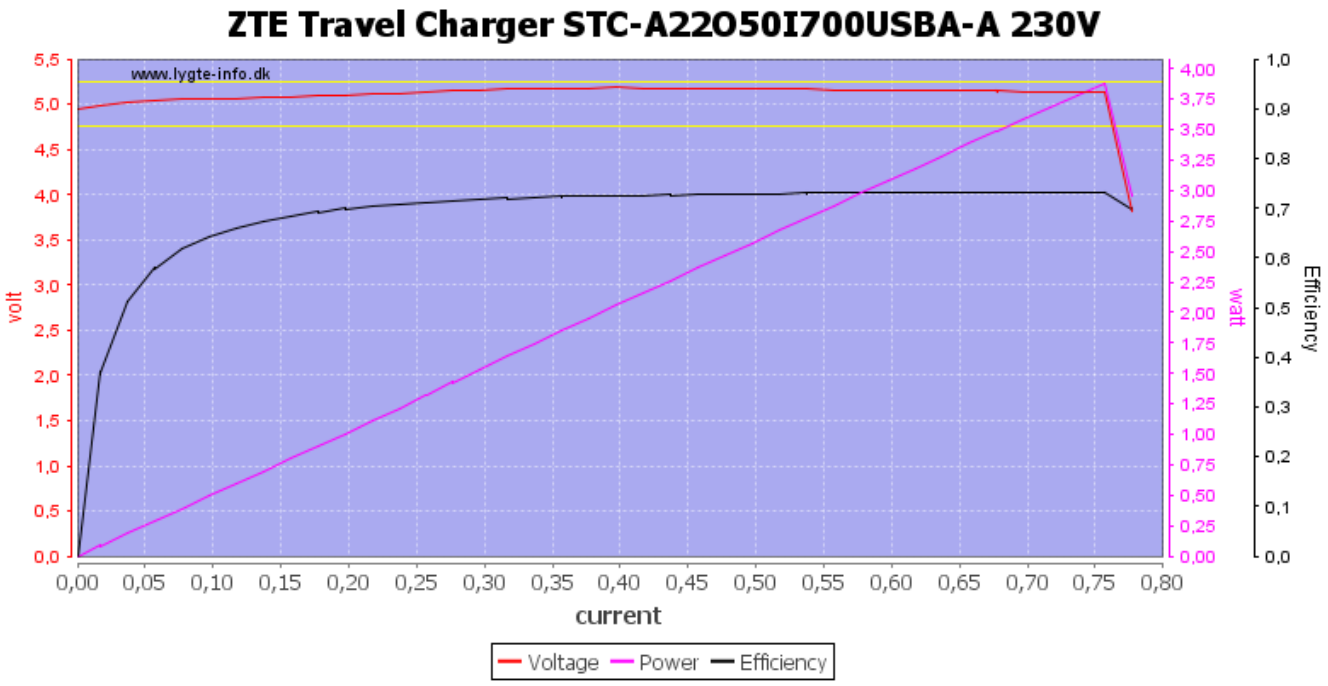
ZTE Travel Charger STC-A22O50I700USBA-A

Official specifications:

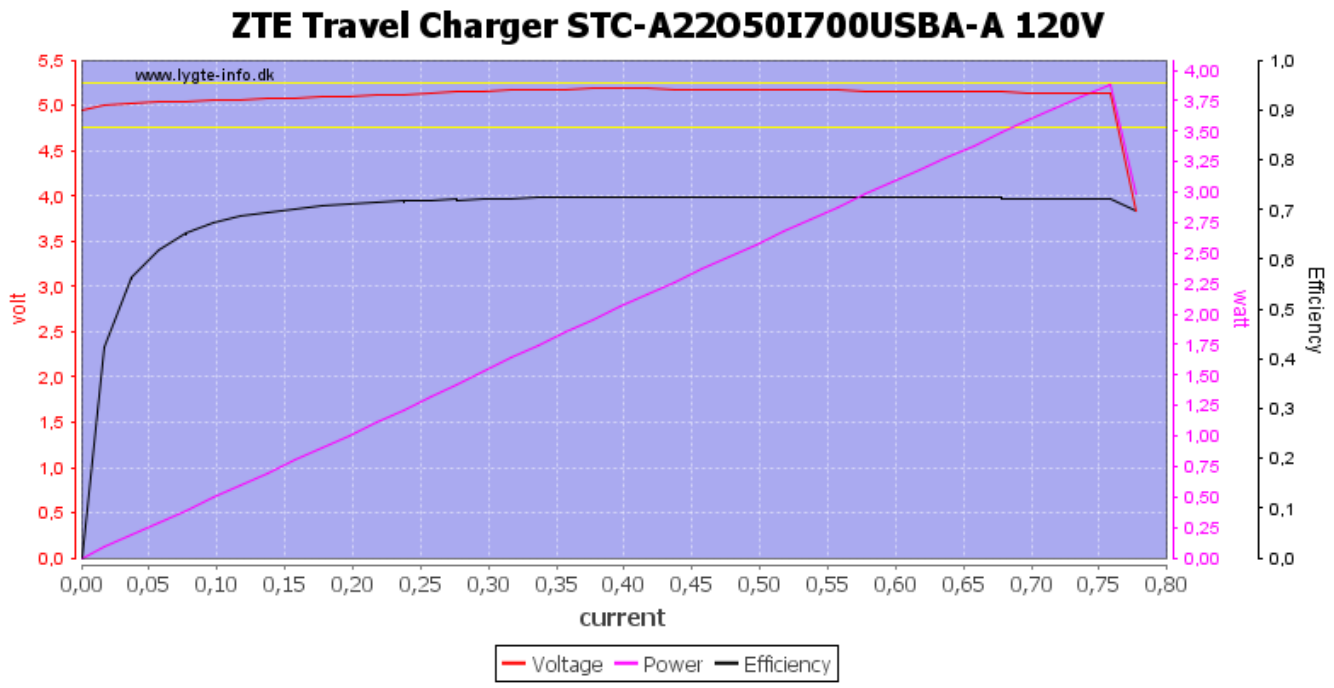
- Input Power: AC 100-240V 50/60Hz
- Output Power: DC 5V 0.7A

Measurements

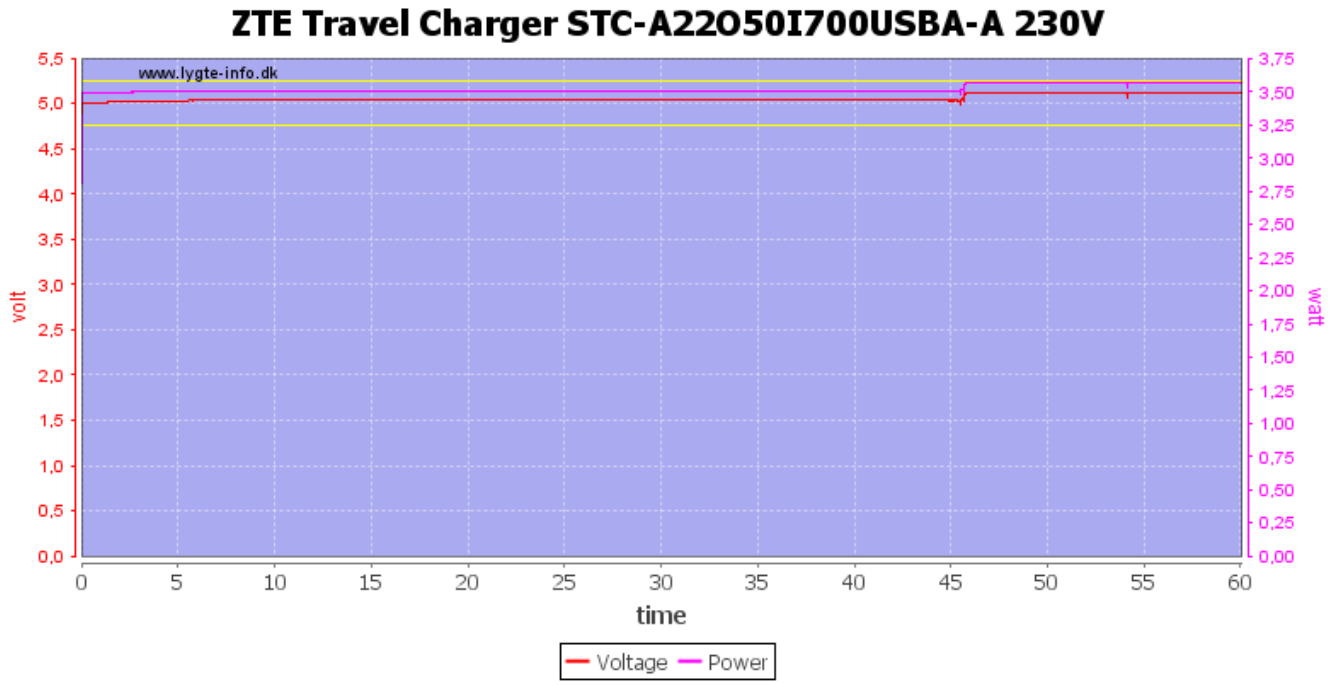
- Power consumption when idle is 0.1 watt
- USB output is coded as usb charger (DCP)
- Weight: 37.7g
- Size: 65 x 36 x 14mm



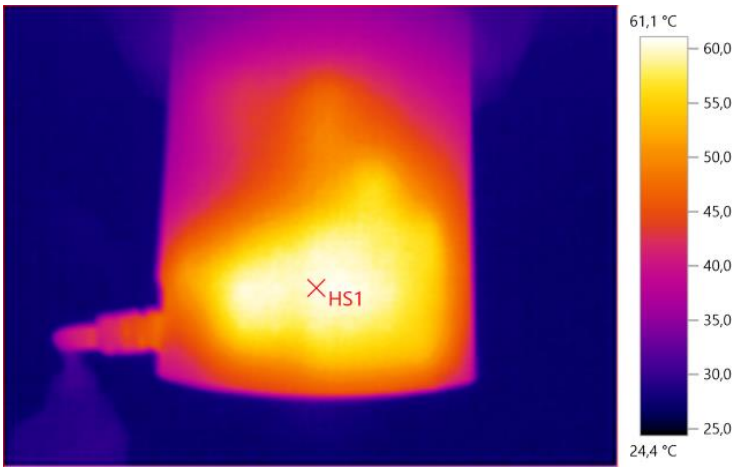
Rated output is 0.7A and it can deliver about 0.76A, this looks very fine. Notice the voltage willl increase slightly with load.



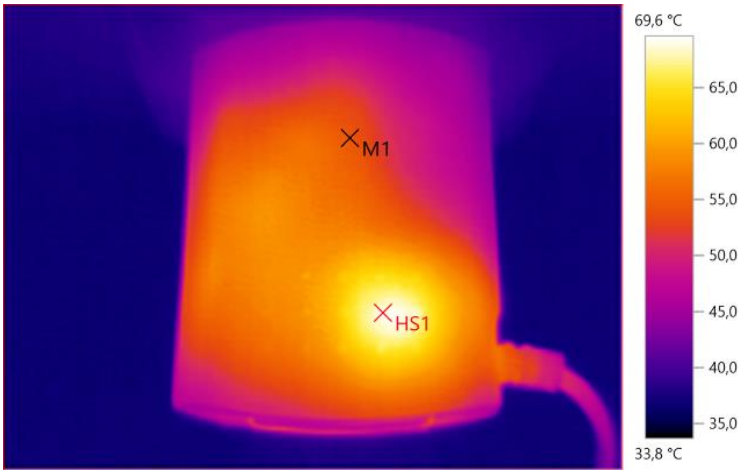
And it works the same way one 120VAC



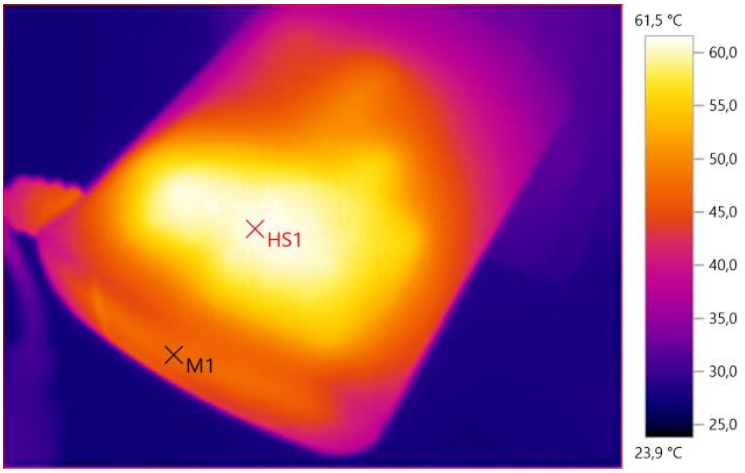
No problems running one hour at 1A.
The temperature photos below are taken between 30 minutes and 60 minutes into the one hour test.



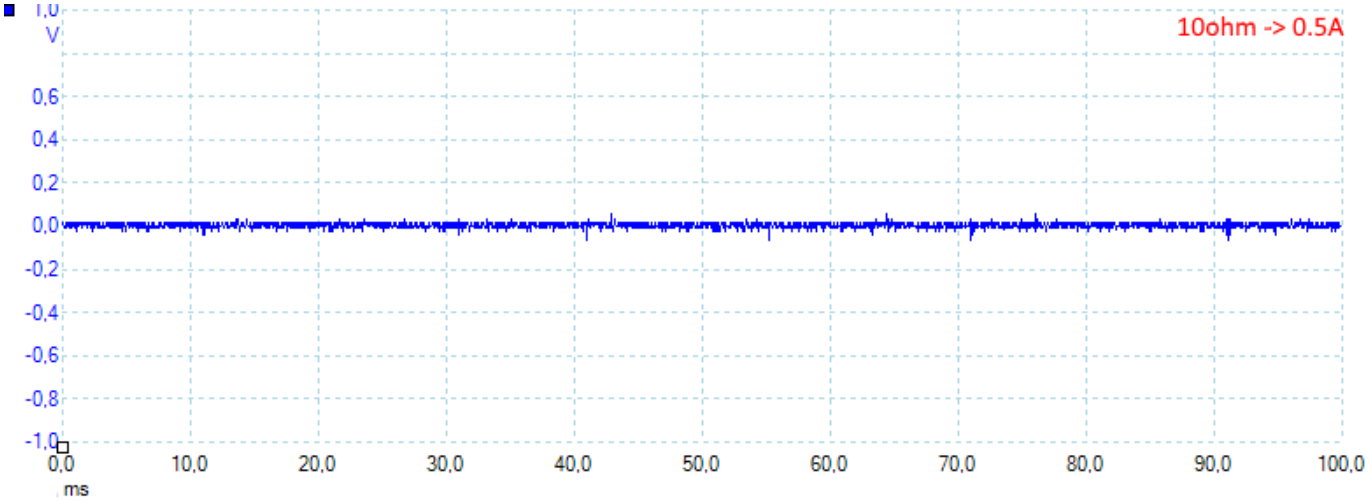
HS1: 61,1°C
HS1 is the transformer.



M1: 54,3°C, HS1: 69,6°C
HS1 is the rectifier diode.

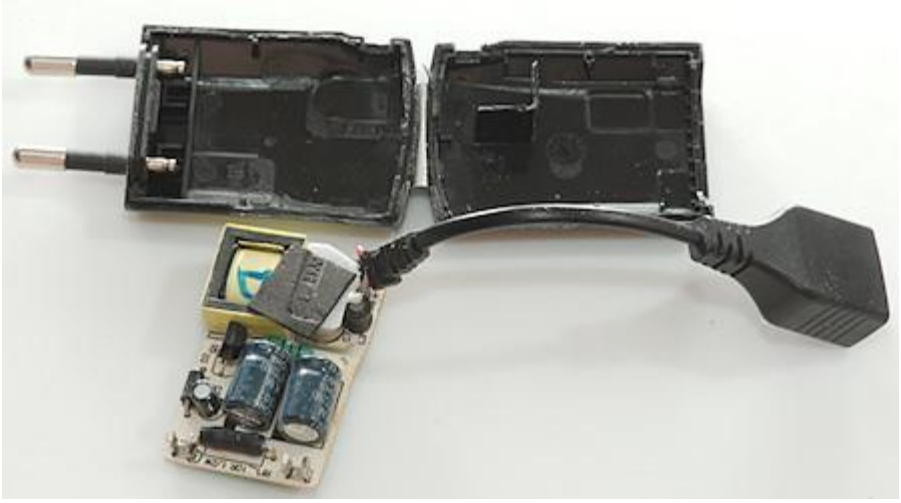


M1: 47,3°C, HS1: 61,5°C

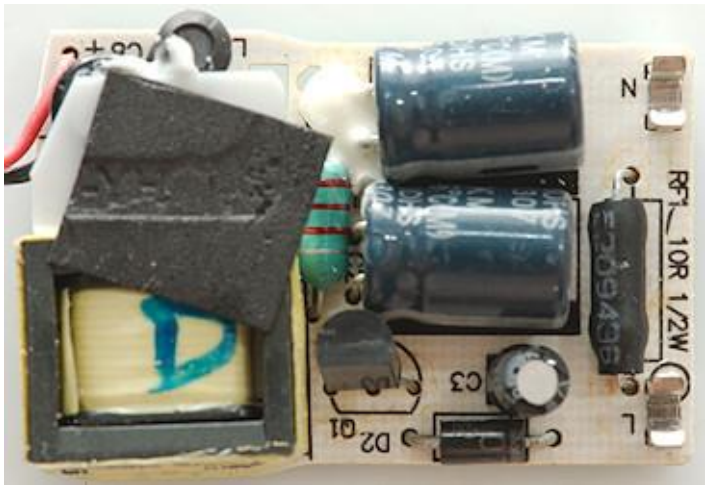


At 0.5A the noise is 9mV rms and 155mVpp, this is a low value.

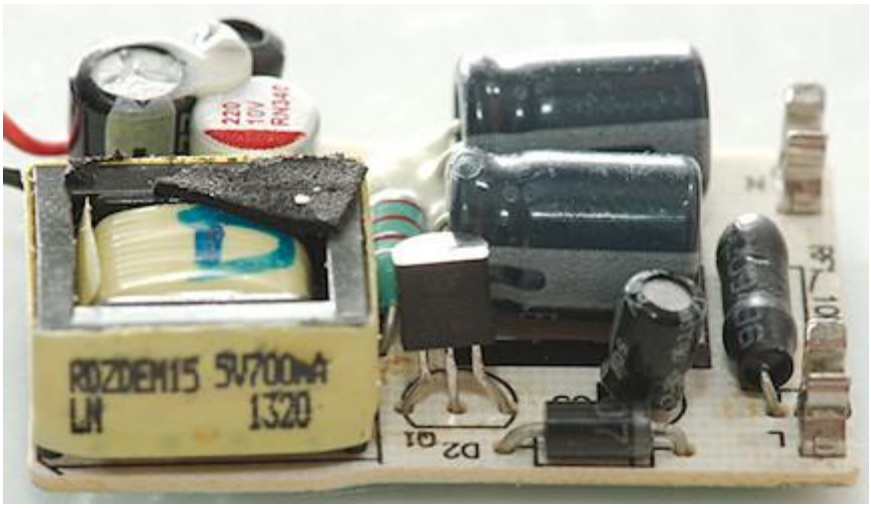
Tear down



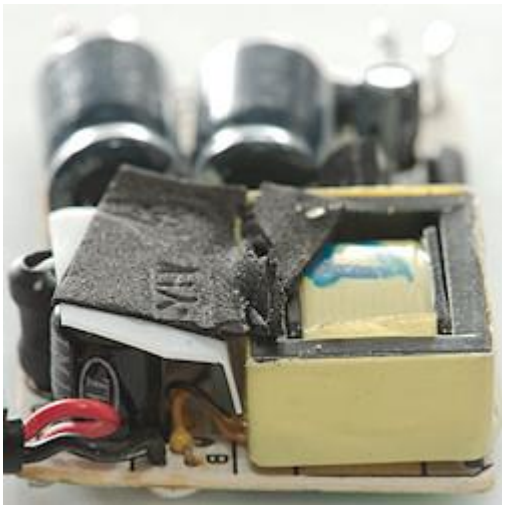
It was fairly easy to open, just use the vice to apply pressure.



On the first picutre there is some foam and a piece of plastic covering some of the circuit, I will get back to that in a moment.
At the mains input is a fusible resistor (RF1: 10R 0.5W), there is an inductor between the two capacitors (The one with 3 red bands). The mains switcher transistor is a TO92 package (Q1).
On the low volt side is two capacitors with in inductor between, notice that the transformer uses flying leds.

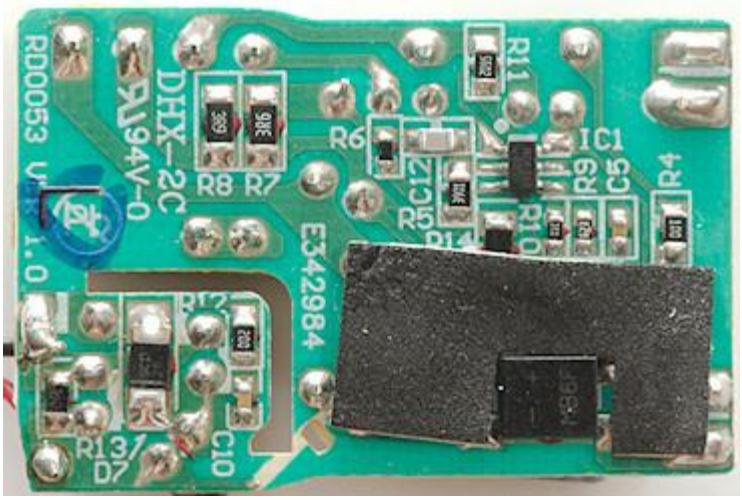


Here the switching transistor can be seen a bit better, it is a MJE13003 700V 1.5A NPN transistor.

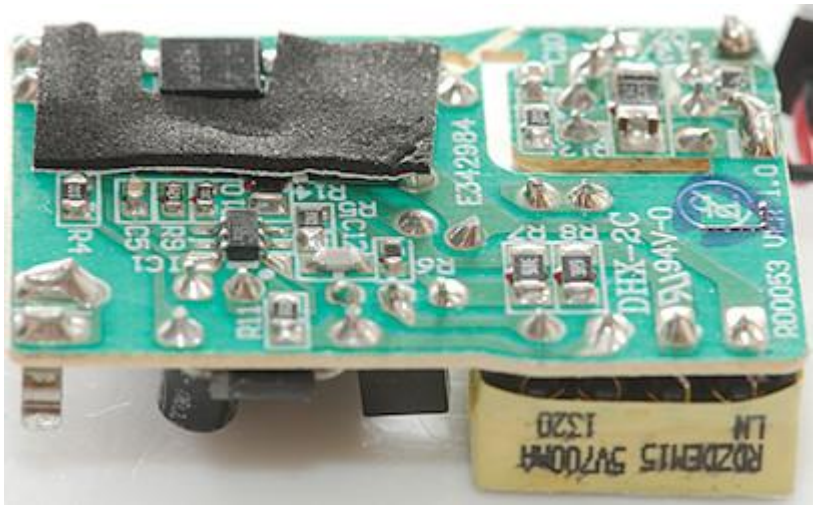


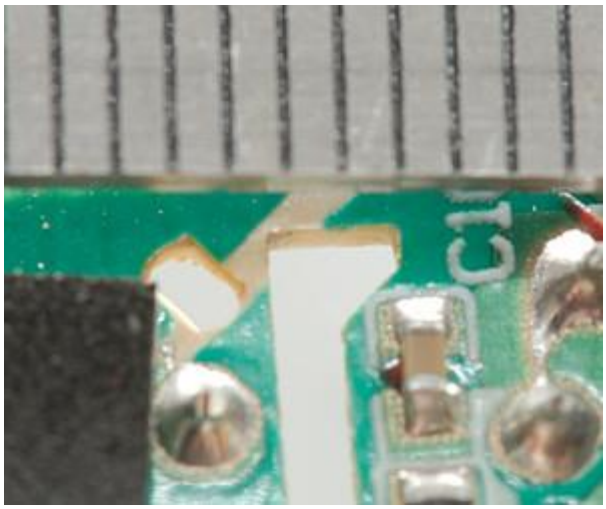
On the first picture the white plastic can be seen, it adds some isolation between the transformer and the low volt section. There will also be some plastic from the bottom (Look at the image of the plastic).

From this side the inductor (L3) between the two low volt capacitors can be seen.



On this side is the bridge rectfier, the switcher controller (IC1) and the rectifier diode (D7).





Safety distance look good. Due to the slot with plastic pooking through the safety distance is very good.

Testing with 2830 volt and 4242 volt between mains and low volt side, did not show any safety problems.

Conclusion

A compact usb charger with good safety and low noise, the output power is too low for modern smartphones.

Source: Test of ZTE Travel Charger STC-A22O50I700USBA-A