

Adapter DC2DC_A4

Voltage converter for EzoFlash+ EPROM adapters.

Adapter replaces dc2dc_a3. V3 drive changed to reduce converter current on $V_{pp}=21/25V$.

Vcc switch (V3,V4) is OFF on actions with $V_{pp}=21/25V$ and JpS ON (Vcc from programmer).

1. Part list.

IC1 – DCDC converter MC34063A (DIP-8); optional: IC Socket DIL-8

IC2 – Adjustable voltage regulator LM317T (TO-220)

V1, V4 – BC640

V2, V3 – BC547

D1 – Schottky 1N5819

D2 – 1N4148 or KD522

R1 – 0.5 Ohm

R2 – 180

R3 – 1k5

R4 – 16k

R5 – Trimmer potentiometer, horizontal. 470

R6 – 10k

R7 – 1k2

R8, R9, R10, R18 – 2k2

R11 – 4k3

R12 – 750 Ohm $\pm 1\%$

R13 – 150 Ohm $\pm 1\%$

R14 – 100 Ohm $\pm 1\%$

R15 – 3k

R16 – 5k6

R17 – 470

R19 – 15k

R20 – 100k

C2 – 240p

C3 – 100.0mkFx35V

C4, C6 – 330n

L1 – Drossel 100mkH

(Axial high current choke HM50 Mfr.BI Technologies , stock Nr 58-085-71 www.elfa.se)

BU1 – Angled socket connector 1x5, division 2.54

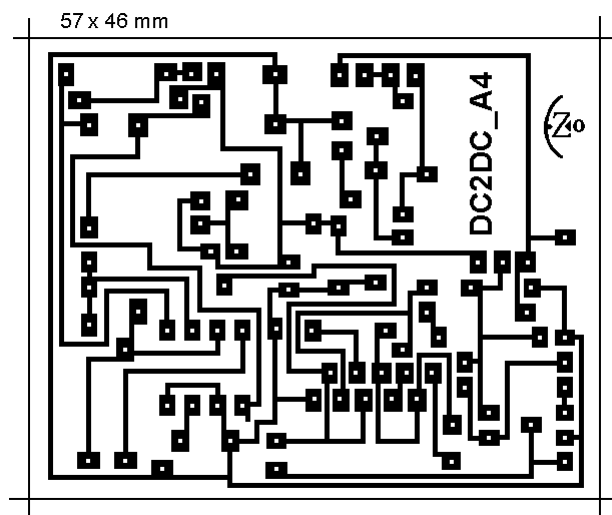
BU2 – Straight pin-header 1x2, division 2.54

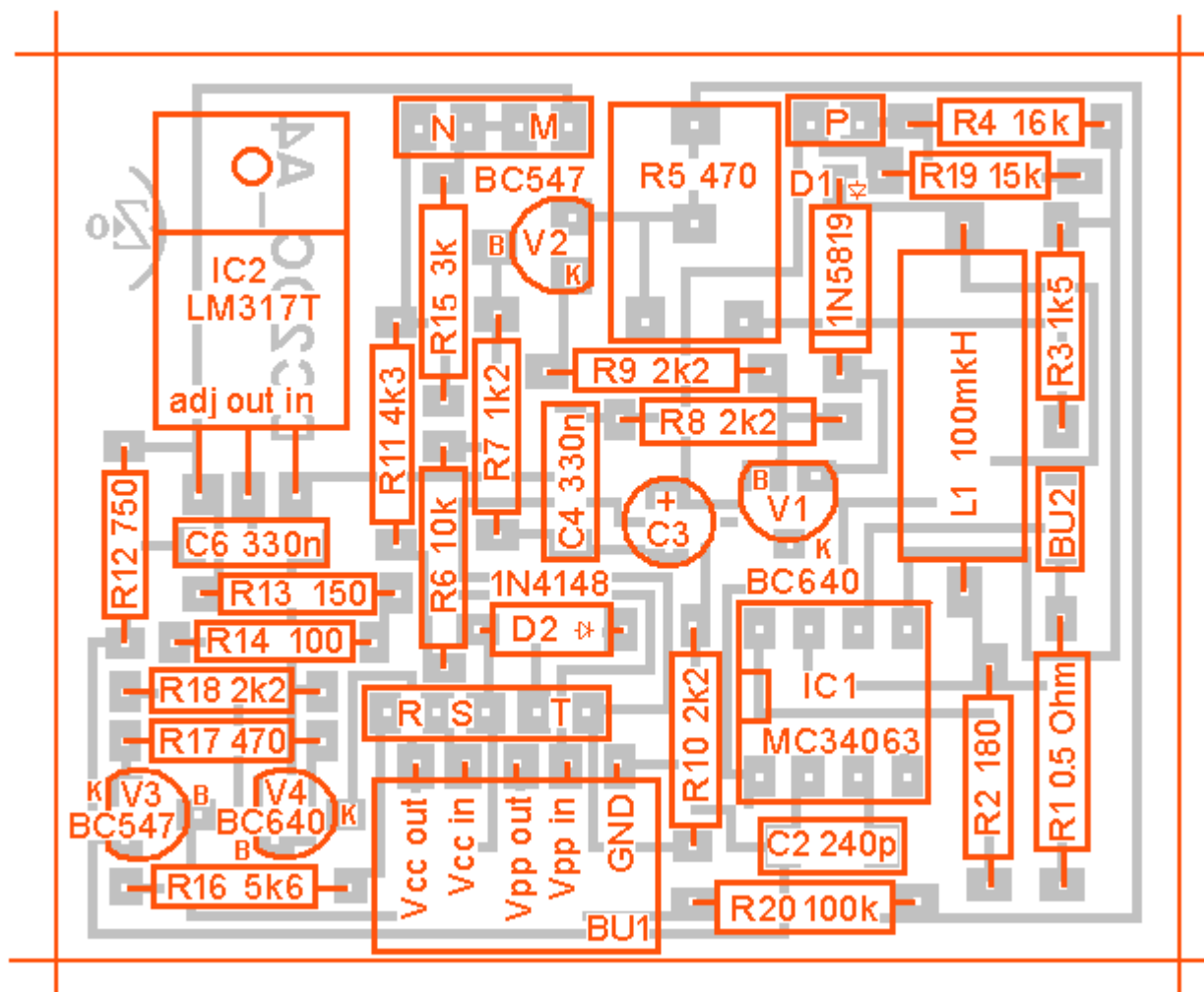
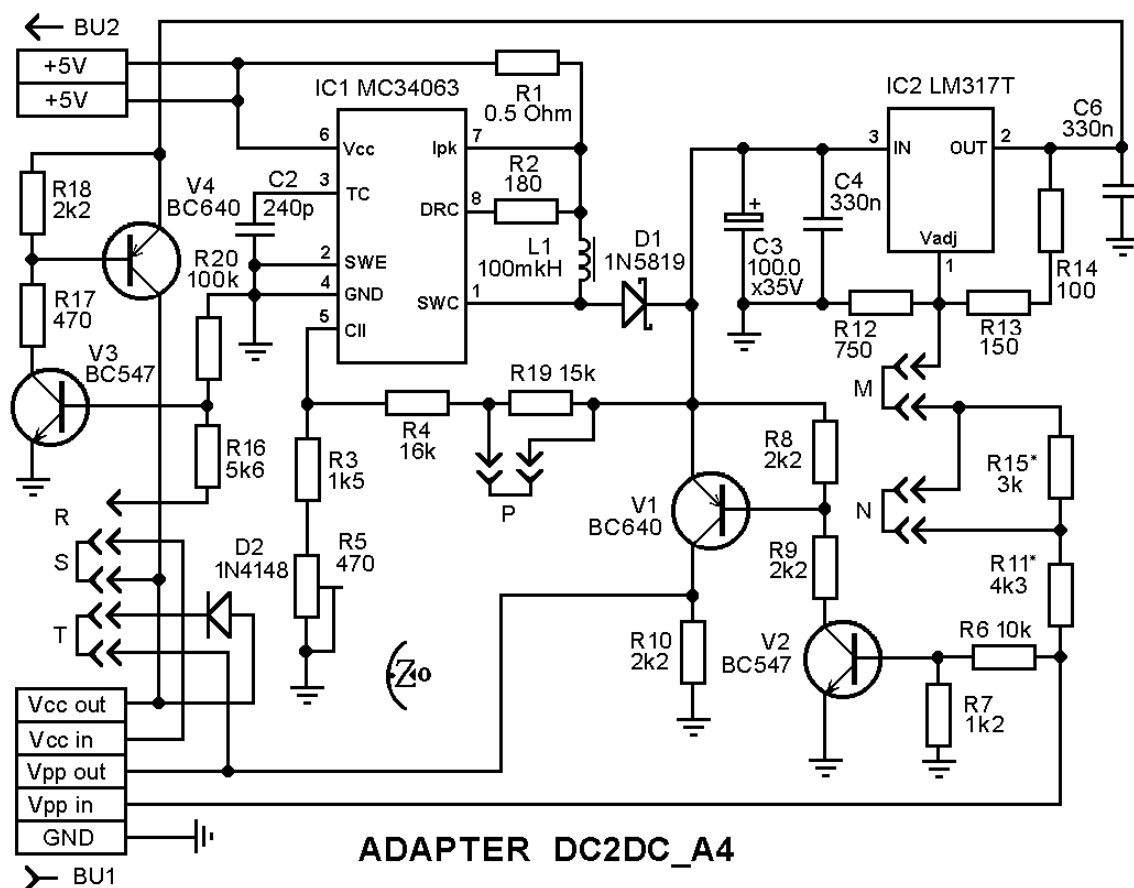
M, N – Straight pin-header 1x4, division 2.54 / Jumper, division 2.54 (2pcs)

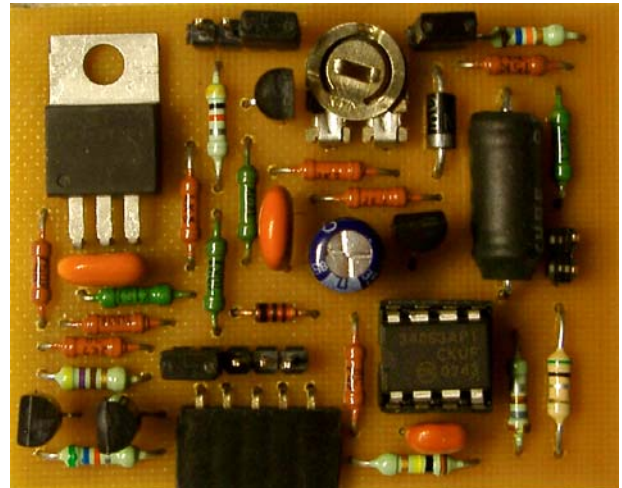
P – Straight pin-header 1x2, division 2.54 / Jumper, division 2.54

R, S, T – Straight pin-header 1x5, division 2.54 / Jumper, division 2.54 (2pcs)

2. Schematic, PCB and pictures







3. Electrical characteristics and settings.

Electrical characteristics:

Input voltage +5.0V (2-wire cable from ezoflash+ programmer Jp1)

Supply current , max 400mA

Adjustable Vpp output voltages +11.5...14V, +21...26.5V

Ipp max 30mA (Vpp=25V), 40mA (Vpp=21V), 100mA (Vpp=12.8V), 30mA (Vpp=12.8V, Icc=50mA)

Vcc output voltages (only with Vpp=11.5...14V) +5.0 (read/verify) ; +5.8V or +6.2V (programming)

Icc max 100mA (Vpp=12.8V), 50mA (Vpp=12.8V, Ipp=30mA)

Vcc, Vpp switches (BC640) saturation voltage Vce, max 0.1V

dc2dc_a4 adapter on EPROM adapters is inserted in Vcc and Vpp lines from programmer to target EPROM and provides higher voltages required for programming (and erase for electrically erasable EPROM).

How to adjust Vpp ?

Install dc2dc_a4 and eeprom adapter without target chip on ezoflash+.

Connect power supply, PC and run SW. Adjust Vpp on LM317- IN with R5.

EPROM with Vcc=5V (read, program), Vpp=25V

Set jumper S, EPROM +5V is powered from programmer .

Adjust Vpp=25.8V on LM317-IN with R5. Output Vpp voltage 24.2-25.8V, Ipp<30mA

Most 2716 chips require Vpp=Vcc in read operation, set jumper T.

EPROM with Vcc=5V (read,program), Vpp=21V

Set jumper S, EPROM +5V is powered from programmer .

Adjust Vpp=21.5V on LM317-IN with R5. Output Vpp voltage 20.5-21.5V, Ipp<40mA

EPROM with Vpp=12.7V, Vcc=5V (read, verify) / 5.8V or 6.2V (programming)

Set jumper R, EPROM Vcc is powered from LM317

Set jumper P , Vpp voltage range 11.5-14.0V

Set jumper M , Vcc=5.8V in programming (Vppin=12.0V from programmer).

Set jumpers M, N; Vcc=6.2V in programming (Vppin=12.0V from programmer).

Adjust Vpp=12.8V on LM317-IN with R5. Output Vpp voltage 12.5-12.8V, Icc<50mA, Ipp<30mA.

Adjust other Vpp value, if required from EPROM datasheets.