

Adapter TSOP-48_D2

EzoFlash+ adapter for 16 bit and 8/16 bit flash memory in TSOP-48 package.

1. Part list.

IC1, IC2 - 74HC245
IC3 - 74HC573
IC4 - 74HC14
D1, D2 - 1N1418 or KD522
R1 - 9k1 or 10k
R2 - 1k
R3, R4, R5 - 2k2
R-PACK1, R-PACK2 - 6k8 x 9 or 6k8..10k x 8
C1 - 220n
BU5 - Straight pin-header 2x16, division 2.54
BU7 - Straight pin-header 1x5, division 2.54
JpA/JpB - Straight pin-header 2x2, division 2.54 / Jumper (2pcs)
Optional:
IC Socket DIL-14
IC Socket DIL-20 (3pcs)
Surface Mount 0.5mm TSOP-48 Socket Meritec 980020-48-01

Solder chip on adapter contactpads or apply socket.

2. Description and info.

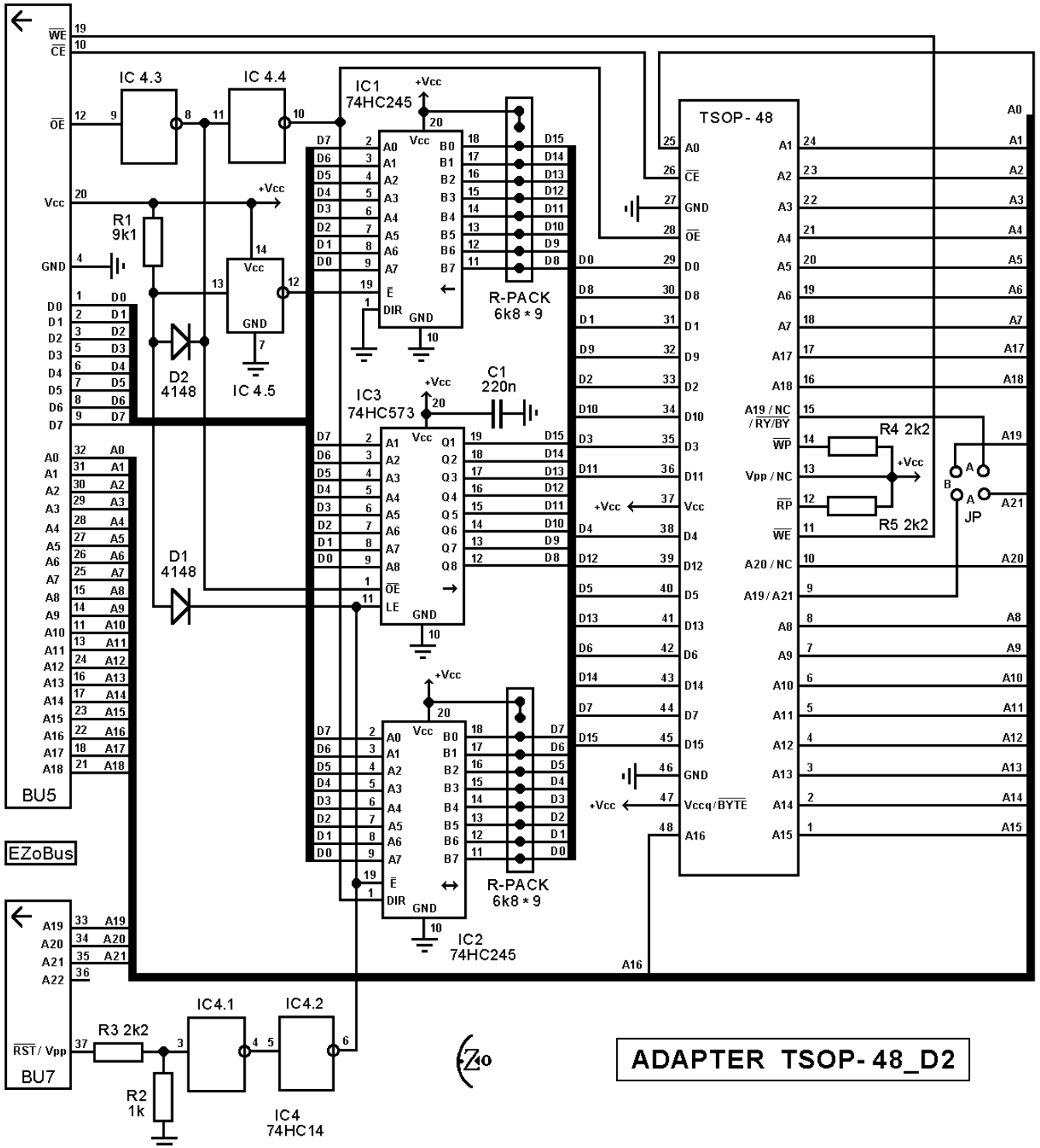
Adapter and SW provide high/low byte load , word programming and low/high byte read.
In programming (OE#=log1) Vpp pulse load (Vpp=high) and latch (Vpp=low) high byte on 74HC573.
While read (OE#=log0) Vpp switch high (Vpp=high) and low (Vpp=low) byte.

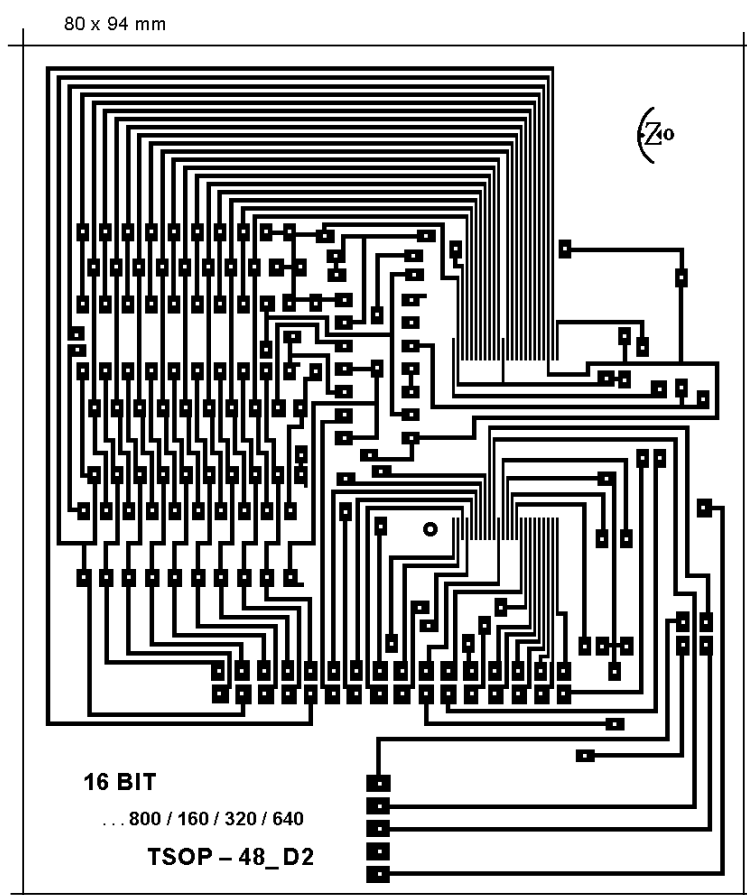
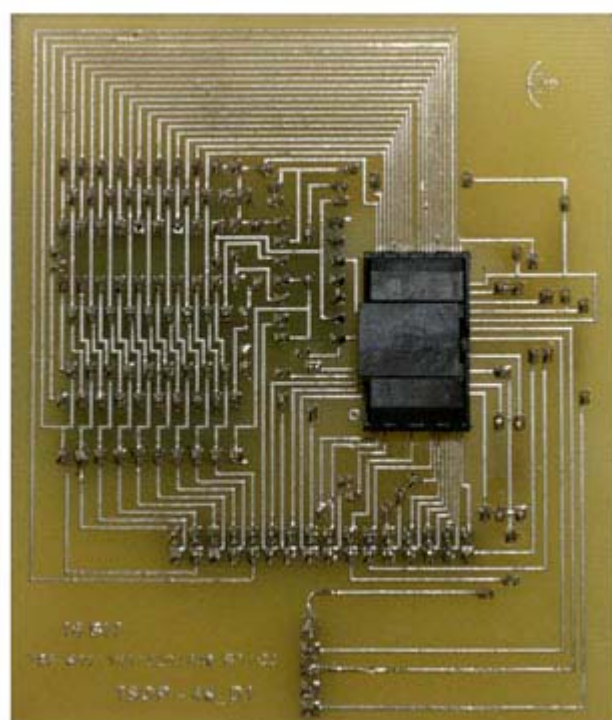
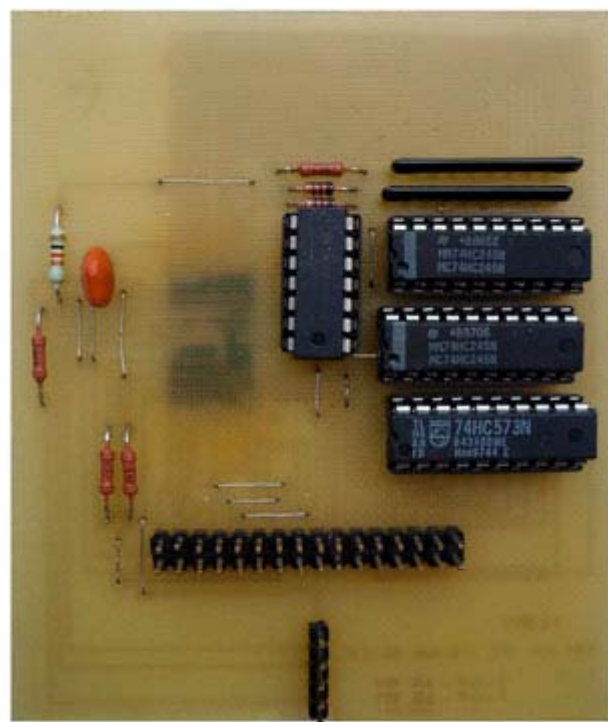
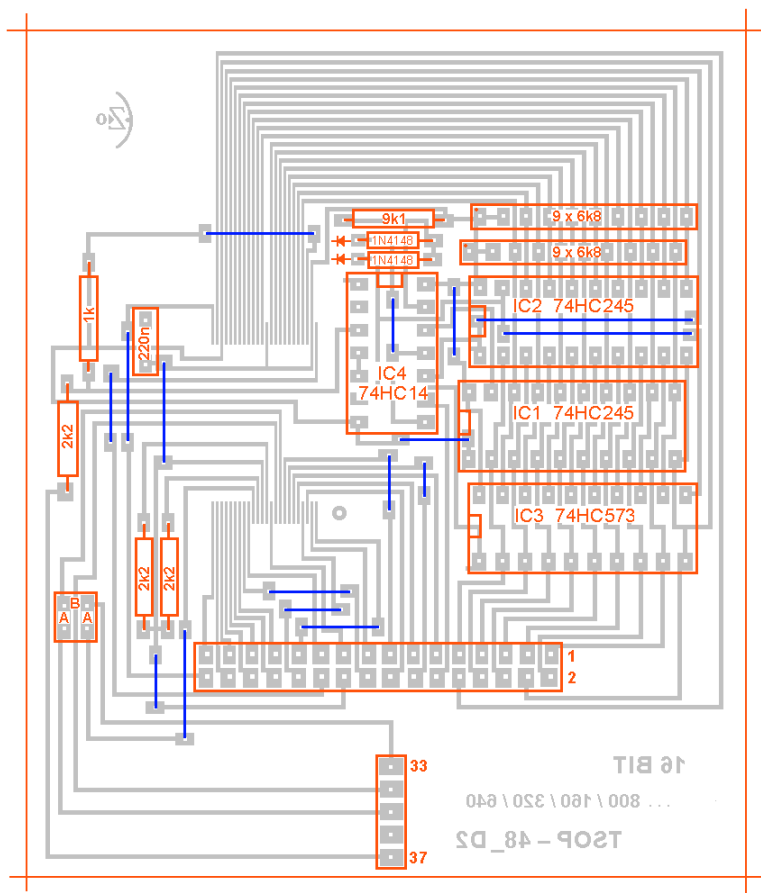
tsop48_d2 replaces adapter tsop48_d1 , added straight pin-header 2x2 with 2 jumpers, A19 is crossed to pins 15 and 9.

8/16 bit flash memory operates in 16bit mode, BYTE=log1.

Adapter and SW don't support temporary sector unprotect mode (+12V on RST) for 29LV/29Fxxx chips.

3. Schematic, PCB and pictures





4. Supported chip list

Willem programmer software version 0.97ja.

Verified chips on mentioned adapter are underlined. Details find in chip_test file.

Software may not support some chips, report problem in Willem/EZoFlash forums.

Selected device group

Request Adapter 3.3V, Flash 16bit (LV) > SST39LF/VFxx00 > ...

- Vcc=3.3V. Jumpers Jp2 (+3.6V), Jp5 (A18), JpB (pin9-A19)

SST SST39LF200A, SST39VF200, SST39VF200A, SST39LF400A, SST39VF400, SST39VF400A, SST39LF800, SST39LF800A, SST39VF800, SST39VF800A, SST39LF160, SST39VF160, SST36VF1601, SST36VF1601C, SST36VF1601E, SST36VF1602C, SST36VF1602E, SST39VF1601, SST39VF1602

Selected device group (16bit, Vpp, boot block)

Request Adapter 3.3V, Flash 16bit (LV) > Intel 28Fx00 > ...

- Vcc=3.3V, Vpp=3.3V. Jumpers Jp2 (+3.6V), Jp5 (A18), JpAA (pin9-A21, pin15-A19)

Intel (TE,E) 28F800B3T, 28F800B3B, 28F800C3T, 28F800C3B, 28F160B3T, 28F160B3B, 28F160C3T, 28F160C3B, 28F320B3T, 28F320B3B, 28F320C3T, 28F320C3B, 28F640B3T, 28F640B3B, 28F640C3T, 28F640C3B **Macronix** MX28F160C3T, MX28F160C3B, MX28F160C3BT, MX28F160C3BB **Sharp** LH28F400BG(H)E-TL, LH28F400BG(H)E-BL, LH28F800BG(H)E-TL, LH28F800BG(H)E-BL, LH28F160BG(H)E-TTL, LH28F160BG(H)E-BTL, LH28F160BJHE-TTL, LH28F160BJHE-BTL, LH28F320BF(H)E-PTTL, LH28F320BF(H)E-PBTL, LHF00L12, LHF00L13, LHF00L14, LHF00L15, LHF00L28, LHF00L29, LHF00L30, LHF00L31 **ST Micro** M28W800T, M28W800B, M28W800BT, M28W800BB, M28W800CT, M28W800CB, M28W160T, M28W160B, M28W160BT, M28W160BB, M28W160CT, M28W160CB, M28W160ECT, M28W160ECB, M28W320BT, M28W320BB, M28W320CT, M28W320CB, M28W320EBT, M28W160EBB, M28W320ECT, M28W320ECB, M28W320FCT, M28W320FCB **Winbond** W28J161T, W28J161B

Selected device group (16bit, boot block)

Request Adapter 3.3V, Flash 16bit (LV) > 29LVxx00 > ...;

Request Adapter 3.3V, Flash 16bit (LV) > 29Fxx00 > ...;

- Vcc=5V. Jumpers Jp1, Jp3 (+5V), Jp5 (A18), JpB (pin9-A19)

Atmel AT49F2048, AT49F4096, AT49F8192, AT49F8192T, AT49F1604, AT49F1604T
Winbond W49F201

- Vcc=2.7-3.6V. Jumpers Jp2 (+3.6V), Jp5 (A18), JpB (pin9-A19)

Actrans AC39LV800 **Atmel** AT49LV2048, AT49LV2048B, AT49BV2048, AT49BV2048B, AT49LV4096, AT49BV4096, AT49LV8192, AT49LV8192T, AT49BV8192, AT49BV8192T, AT49LV160, AT49BV160, AT49BV160T, AT49BV160C, AT49BV160CT, AT49BV160D, AT49BV160DT, AT49BV1604A, AT49BV1604AT, AT49LV320, AT49BV320, AT49BV320T, AT49BV320A, AT49BV320AT, AT49BV320C, AT49BV320CT, AT49BV320D, AT49BV320DT
Hynix HY29LV320T, HY29LV320B **Winbond** W49L201, W49L401, W49L401T

Selected device group (8/16bit, boot block)

Request Adapter 3.3V, Flash 16bit (LV) > 29LVxx00 > ...;

Request Adapter 3.3V, Flash 16bit (LV) > 29Fxx00 > ...

- Vcc=5V. Jumpers Jp1, Jp3 (+5V), Jp5 (A18), JpB (pin9-A19)

Alliance AS29F200T, AS29F200B **AMD** AM29F100T, AM29F100B, AM29F200T, AM29F200B, AM29F200AT, AM29F200AB, AM29F200BT, AM29F200BB, AM29F400T, AM29F400B, AM29F400AT, AM29F400AB, AM29F400BT, AM29F400BB, AM29F800T, AM29F800B, AM29F800BT, AM29F800BB, AM29F160DT, AM29F160DB, **Amic** A29400TV, A29400UV, A29800TV, A29800UV, **Atmel** AT49F2048A, AT49F4096A, AT49F8192, AT49F8192T, AT49F8192A, AT49F8192AT, AT49F8011, AT49F8011T, AT49F1614, AT49F1614T **Bright** BM29F400T, BM29F400B **EON** EN29F800T, EN29F800B **Fujitsu** (MBM) 29F200T, 29F200B, 29F200CT, 29F200BC, 29F400T, 29F400B, 29F400TA, 29F400BA, 29F400TC, 29F400BC, 29F800T, 29F800B, 29F800TA, 29F800BA, 29F160TE, 29F160BE **Hynix** HY29F400T, HY29F400B, HY29F400AT, HY29F400AB, HY29F800T, HY29F800B, HY29F800AT, HY29F800AB **Macronix** MX29F100T,

MX29F100B, MX29F200T, MX29F200B, MX29F400T, MX29F400B, MX29F400CT, MX29F400CB, MX29F800T, MX29F800B **Mitsubishi** M5M29FT800, M5M29FB800, M5M29FT160A, M5M29FB160A **Mosel Vitelec** V29C51400T, V29C51400B **ST Micro** M29F100T, M29F100B, M29F100BT, M29F100BB, M29F200T, M29F200B, M29F200BT, M29F200BB, M29F400T, M29F400B, M29F400BT, M29F400BB, M29F800AT, M29F800AB, M29F800DT, M29F800DB, M29F160BT, M29F160BB **Texas Instr.** TMS29F400T, TMS29F400B **Toshiba** TC58F400, TC58F401
 - Vcc=2.7-3.6V. Jumpers Jp2 (+3.6V), Jp5 (A18), JpB (pin9-A19)
ACTrans AC29LV160T, AC29LV160B, AC29LV320T, AC29LV320B **Alliance** AS29LV400T, AS29LV400B, AS29LV800T, AS29LV800B, AS29LV160T, AS29LV160B, **AMD** AM29LV200T, AM29LV200B, AM29LV200BT, AM29LV200BB, AM29LV400T, AM29LV400B, AM29LV400BT, AM29LV400BB, AM29LV800T, AM29LV800B, AM29LV800BT, AM29LV800BB, AM29LV800DT, AM29LV800DB, AM29LV160T, AM29LV160B, AM29LV160BT, AM29LV160BB, AM29LV160DT, AM29LV160DB, AM29LV160MT, AM29LV160MB, AM29LV320DT, AM29LV320DB, AM29LV320MT, AM29LV320MB **Amic** A29L400TV, A29L400UV, A29L800TV, A29L800UV, A29L160TV, A29L160UV, A29L320T, A29L320U, A29L320AT, A29L320AU **Atmel** AT49LV2048A, AT49BV2048A, AT49LV4096A, AT49BV4096A, AT49LV8192A, AT49LV8192AT, AT49BV8192A, AT49BV8192AT, AT49LV8011, AT49LV8011T, AT49BV8011, AT49BV8011T, AT49LV161, AT49LV161T, AT49LV161B, AT49BV161T, AT49LV1614, AT49LV1614T, AT49BV1614, AT49BV1614T, AT49LV1614A, AT49LV1614AT, AT49BV1614A, AT49BV1614AT, AT49BV162A, AT49BV162AT, AT49BV163A, AT49BV163AT, AT49BV163D, AT49BV163DT, AT49LV321, AT49LV321T, AT49BV321, AT49BV321T, AT49LV3218, AT49LV3218T AT49BV3218, AT49BV3218T, AT49BV322A, AT49BV322AT, AT49BV322D, AT49BV322DT **EliteMT** F49L400UA, F49L400BA **EON** EN29LV400T, EN29LV400B, EN29LV400T, EN29LV400AB, EN29LV800AT, EN29LV800B, EN29LV800AT, EN29LV800AB, EN29LV800BT, EN29LV800BB, EN29LV160T, EN29LV160B, EN29LV160AT, EN29LV160AB, EN29LV320T, EN29LV320B, EN29LV320AT, EN29LV320AB **ESI** ES29LV400DT, ES29LV400DB, ES29LV400ET, ES29LV400EB, ES29LV800DT, ES29LV800DB, ES29LV160DT, ES29LV160DB, ES29LV160ET, ES29LV160EB, ES29LV320DT, ES29LV320DB **Fujitsu** (MBM) 29LV200T, 29LV200B, 29LV200TA, 29LV200BA, 29LV200TC, 29LV200BC, 29LV400T, 29LV400B, 29LV400TA, 29LV400BA, 29LV400TC, 29LV400BC, 29LV800T, 29LV800B, 29LV800TA, 29LV800BA, 29LV800TB, 29LV800BB, 29LV160T, 29LV160B, 29LV160TE, 29LV160BE, 29LV320TE, 29LV320BE, 29PL32TM, 29PL32BM **Hynix** HY29LV400T, HY29LV400B, HY29LV400AT, HY29LV400AB, HY29LV800T, HY29LV800B, HY29LV800AT, HY29LV800AB, HY29LV160T, HY29LV160B, HY29LV160BT, HY29LV160BB **LinkSmart** L29S400, L29S400B, L29S800, L29S800B, L29S160, L29S160B **Macronix** MX29LV400T, MX29LV400B, MX29LV400CT, MX29LV400CB, MX29LV401T, MX29LV401B, MX29LV800T, MX29LV800B, MX29LV800AT, MX29LV800AB, MX29LV800BT, MX29LV800BB, MX29LV800CT, MX29LV800CB, MX29LV160T, MX29LV160B, MX29LV160AT, MX29LV160AB, MX29LV160BT, MX29LV160BB, MX29LV160CT, MX29LV160CB, MX29LV161T, MX29LV161B, MX29LV320T, MX29LV320B, MX29LV320AT, MX29LV320AB, MX29L8100T, MX29L8100B, MX29L1610T, MX29L1610B, MX26LV400T, MX26LV400B, MX26LV800T, MX26LV800B, MX26LV800AT, MX26LV800AB, MX26LV1600T, MX26LV160B, MX26LV160AT, MX26LV160AB **Mitsubishi** M5M29GT160B, M5M29GB160B **Renesas** M5M29KT331A, M5M29KB331A **Sanyo** LE28FV4101T, LE28FW4101T, LE28FU4101T **Spansion** S29AL004D..-01, S29AL004D..-02, S29AL008D..-01, S29AL008D..-02, S29AL016D..-01, S29AL016D..-02, S29AL016M..-01, S29AL016M..-02, S29AL016M..-R1, S29AL016M..-R2, S29GL016A..-R1, S29GL016A..-R2, S29AL032D..-03, S29AL032..-04, S29GL032A..-R3, S29GL032A..-R4, S29GL032M..-R3, S29GL032M..-R4 **ST Micro** M29W200BT, M29W200BB, M29W400T, M29W400B, M29W400BT, M29W400BB, M29W400DT, M29W400DB, M29W800T, M29W800B, M29W800AT, M29W800AB, M29W800DT, M29W800DB, M29W160BT, M29W160BB, M29W160DT, M29W160DB, M29W160ET, M29W160EB, M29W320DT, M29W320DB **Texas Instr.** TMS29LF800T, TMS29LF800B **Toshiba** TC58FVT400, TC58FVB400, TC58FVT800, TC58FVB800, TC58FVT160, TC58FVB160, TC58FVT160A, TC58FVB160A **Utron** UT29L800AT, U29L800AB, UT29L1600AT, UT29L1600AB, UT29L3200AT, UT29L3200AB **Winbond** W19B320AT, W19B320AB, W19B320ST, W19B320SB, W19L320ST, W19L320SB

Selected device group – 8/16bit, dual bank, boot block

Request Adapter 3.3V, Flash 16bit (LV) > 29LVx00 > ...;

Request Adapter 3.3V, Flash 16bit (LV) > 29Fx00 > ...

- Vcc=2.7-3.6V. Jumpers Jp2 (+3.6V), Jp5 (A18), JpB (pin9-A19)

AMD AM29DL400BT, AM29DL400BB, AM29DL800BT, AM29DL800BB, AM29DL161DT, AM29DL161DB, AM29DL162DT, AM29DL162DB, AM29DL163DT, AM29DL163DB, AM29DL164DT, AM29DL164DB, AM29DL320GT, AM29DL320GB, AM29DL322DT, AM29DL322DB, AM29DL322GT, AM29DL322GB, AM29DL323CT, AM29DL323CB, AM29DL323DT, AM29DL323DB, AM29DL323GT, AM29DL323GB, AM29DL324DT, AM29DL324DB, AM29DL324GT, AM29DL324GB, **Amic** A29DL323TV, A29DL323UV, A29DL324TV, A29DL324UV **Fujitsu** (MBM) 29DL400TC, 29DL400BC, 29DL800TA, 29DL800TB, 29DL161TD, 29DL161BD, 29DL161TE, 29DL161BE, 29DL162TD, 29DL162BD, 29DL162TE, 29DL162BE, 29DL163TD, 29DL163BD, 29DL163TE, 29DL163BE, 29DL164TD, 29DL164BD, 29DL164TE, 29DL164BE, 29DL321TD, 29DL321BD, 29DL322TD, 29DL322BD, 29DL322TE, 29DL322BE, 29DL323TD, 29DL323BD, 29DL323TE, 29DL323BE, 29DL324TD, 29DL324BD, 29DL324TE, 29DL324BE, **Hynix** HY29DL162T, HY29DL162B, HY29DL163T, HY29DL163B **NEC** uPD29F032202AL-T, uPD29F032202AL-B, uPD29F032203AL-T, uPD29F032203AL-B, uPD29F032204AL-T, uPD29F032204AL-B **Samsung** K8D1716UBC, K8D1716UTC, K8D3216UBC, K8D3216UTC **Sanyo** LE28DW8163, LE28DW1621T, LE28DW3212T **ST_Micro** M29DW323DT, M29DW323DB, M29DW324DT, M29DW324DB, **Toshiba** TC58FVT321, TC58FVB321, TC58FVM5T2A, TC58FVM5B2A, TC58FVM5T3A, TC58FVM5B3A **Winbond** W19B322MT, W19B322MB, W19B323MT, W19B323MB, W19B324MT, W19B324MB

Selected group – 8/16bit, Vpp, boot block

Request Adapter 3.3V, Flash 16bit (LV) > Intel 28Fx00 > ...

- Vcc=5V, Vpp=5.0V. Jumpers Jp1, Jp3 (+5V), Jp5 (A18), JpAA (pin9-A21, pin15-A19)

Intel (TE,E) 28F200CVT, 28F200CVB, 28F200B5T, 28F200B5B, 28F400CVT, 28F400CVB, 28F400CET, 28F400CEB, 28F400B5T, 28F400B5B, 28F800CVT, 28F800CVB, 28F800CET, 28F800CEB, 28F800B5T, 28F800B5B **ISSI** IS28F200BVT, IS28F200BLVT, IS28F200BVB, IS28F200BLVB, IS28F400BVT, IS28F400BLVT, IS28F400BVB, IS28F400BLVB **Micron** MT28F200B1WG-T, MT28F200B1WG-B, MT28F200B5-T, MT28F200B5-B, MT28F400B1WG-T, MT28F400B1WG-B, MT28F400B5-T, MT28F400B5-B, MT28F800B1WG-T, MT28F800B1WG-B, MT28F800B5-T, MT28F800B5-B **Sharp** LH28F400BV(H)E-TL, LH28F400BV(H)E-BL, LH28F800BV(H)E-TV, LH28F800BV(H)E-BV **Texas Instr.** TMS28F200A-T, TMS28F200A-B, TMS28F400A-T, TMS28F400A-B, TMS28F800A-T, TMS28F800A-B, TMS28F1600T, TMS28F1600B **Winbond** W28V400T, W28V400B

- Vcc=3.3V, Vpp=3.3V. Jumpers Jp2 (+3.6V), Jp5 (A18), JpAA (pin9-A21, pin15-A19)

Intel (TE,E) 28F400B3T, 28F400B3B **Micron** MT28F200B3WG-T, MT28F200B3WG-B, MT28F400B3WG-T, MT28F400B3WG-B, MT28F800B3WG-T, MT28F800B3WG-B **Sharp** LH28F800BJ(H)E-PTTL, LH28F800BJ(H)E-PBTL, LH28F800BV(H)E-TTL, LH28F800BV(H)E-BTL, LH28F160BJ(H)E-T, LH28F160BJ(H)E-B, LH28F160BV(H)E-TTL, LH28F160BV(H)E-BTL, LH28F320BJ(H)E-PT, LH28F320BJ(H)E-PB **Winbond** W28J800T, W28J800B, W28J160T, W28J160B, W28J320T, W28J320B