

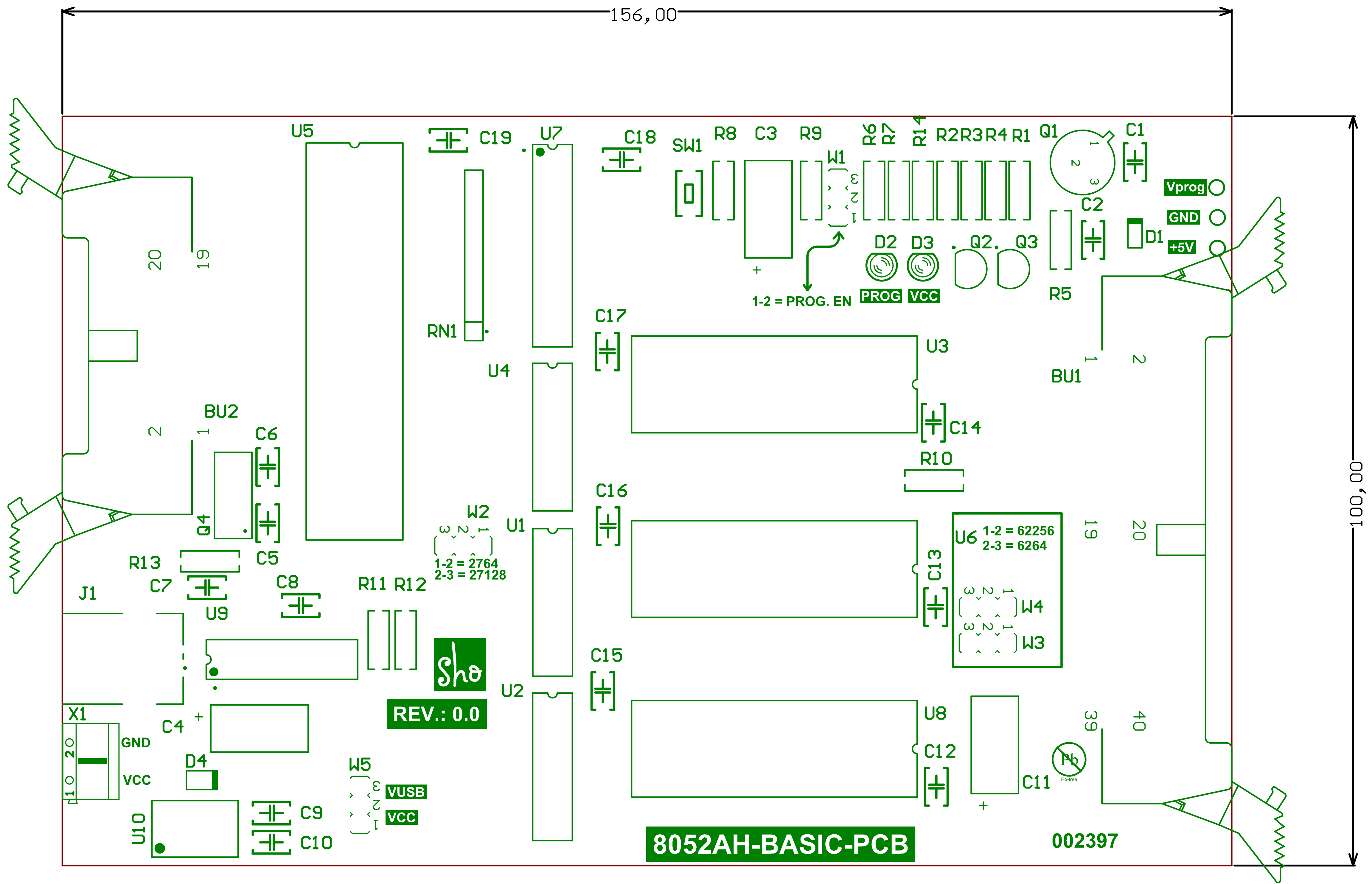
Y0 - 0000 - 1FFF H  
 Y1 - 2000 - 3FFF H  
 Y2 - 4000 - 5FFF H  
 Y3 - 6000 - 7FFF H  
 Y4 - 8000 - 9FFF H  
 Y5 - A000 - BFFF H  
 Y6 - C000 - DFFF H  
 Y7 - E000 - FFFF H

1-2 = 2764  
 2-3 = 27128

1-2 = 62256  
 2-3 = 6264

|                                 |                  |  |               |
|---------------------------------|------------------|--|---------------|
| Title <b>8052AH-BASIC Board</b> |                  | S.Hofmann<br>mcu@shotech.de<br><a href="http://www.shotech.de">http://www.shotech.de</a> |               |
| Size: A3                        | Description: PCB |  | Revision: 0.0 |
| Date: 29.11.2023                | Time: 12:01:59   | Sheet 1 of 1   |               |
| File: 8052AH-Sheet1.SchDoc      |                  |  |               |







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## Bill of Materials

|              |                    |
|--------------|--------------------|
| Datum:       | 29. November 2023  |
| Zeit:        | 12:02:07           |
| Variante:    | None               |
| Bezeichnung: | 8052AH-BASIC Board |
| Revision:    | 0.0                |
| Description: | PCB                |

| Quantity | Designator              | Footprint                 | Bemerkung  | Value                   | MFT                    | Order-Code             | Second-source            | shotech |
|----------|-------------------------|---------------------------|--|-------------------------|------------------------|------------------------|--------------------------|---------|
| 1        | BU1                     | IDC2.54-H40A - duplicate  | SEK-18 SV MA STD ANG29 RKZ 40P PL3                         | 09 18 540 7903          | Harting                | 09 18 540 7903         | PSL-40W                  |         |
| 1        | BU2                     | IDC2.54-H20A              | SEK-18 SV MA STD ANG29 RKZ 20P PL3                         | PSL 20W                 | Harting                | 09 18 520 7913         | Reichelt - PSL 20W       |         |
| 10       | C16, C17, C18, C19      | CAP_Radial_5MM            | 100nF/50V/±10%/X7R/RM 5.08                                 | 100nF/50V               | Vishay / BC Components | K104K15X7RF53H5        | C322C104K5R5TA - shotech | 1347    |
| 2        | C3, C4                  | CAPPA6.3mm x 13mm         | Elko axial 100µF 16V 6,3x13mm +85°C                        | 10µF/35V                | SUNTAN                 | TS13AE1V100MSB000R     |                          |         |
| 2        | C5, C6                  | CAP_Radial_5MM            | Ker-Ko 22pF 50V RM5,00 5% NPO/COG                          | 22pF                    | TDK                    | FG28C0G1H220JNT06      | FG28C0G1H220JNT00        | 2387    |
| 1        | C7                      | CAP_Radial_5MM            | COG +/-5% LS=5mm   | 330pF                   | TDK                    | FG26C0G2J331JNT06      | 3D06B331KL52N : Richwell | 2396    |
| 1        | C8                      | CAP_Radial_5MM            | Vs-Kond 470nF 63V Z5U RM5                                  | 470nF                   | KEMET                  | C322C474M5U5TA         | KEMET                    | 1751    |
| 2        | C9, C10                 | CAP_Radial_5MM            | CAP CER 1UF 50V X7R RADIAL                                 | 1uF                     | KEMET                  | C330C105M5R5CA7303     |                          | 1414    |
| 1        | C11                     | CAPPA6.3mm x 13mm         | Elko axial 100µF 16V 6,3x13mm +85°C                        | 100µF/16V               | SUNTAN                 | TS13AE1C101MSB000R     |                          |         |
| 3        | CS1, CS2, CS3           |                           | Circuit socket DIP28-LC                                    | Circuit socket DIP28-LC | ASS                    | A 28-LC-TT             |                          | 1521    |
| 1        | CS4                     |                           | Circuit socket DIP40                                       | Circuit socket DIP40    | ASS                    | A 40-LC-TT             |                          | 1582    |
| 3        | CS5, CS6, CS7           |                           | Circuit socket DIP14 präzision                             | Circuit socket DIP14    | PRECIDIP               | 110-87-314-41-001101   |                          | 2065    |
| 1        | CS8                     |                           | Circuit socket DIP16 präzision                             | Circuit socket DIP16    | ASS                    | AR16-HZL-TT            |                          | 2066    |
| 1        | CS9                     |                           | Circuit socket DIP20 präzision                             | Circuit socket DIP20    | ASS                    | AR 20 HZL-TT           |                          | 2067    |
| 1        | CS10                    |                           | Ribbon cable yellow 28                                     | Ribbon cable yellow 28  | shotech                |                        |                          | 2398    |
| 1        | CS11                    |                           | Circuit IDC socket 40 pin.                                 | pin.                    | free                   | PFL 40                 |                          |         |
| 1        | CS12                    |                           | Circuit IDC socket 20 pin.                                 | pin.                    | free                   | PFL 20                 |                          |         |
| 1        | D1                      | DO-35                     | Diode (Allzweck, Leistung, Schaltung) Vr/75V Iq/150mA T/R  | 1N4148                  | On Semiconductors      | 1N4148TR               |                          | 1594    |
| 1        | D2                      | LED3MM - spacer - red     | LED diffus rot 80mcd 45° 3mm                               | LED_3mm_RED             | Everlight              | 204-10SURD/S530-A3     |                          | 1321    |
| 1        | D3                      | LED3MM                    | LED diffus grün 50mcd 60° 3mm                              | LED_3mm_GREEN           | Everlight              | 204-10SYGD/S530-E2     |                          | 1323    |
| 1        | D4                      | DO41                      | Schottky Dioden & Gleichrichter 1.0A 40V                   | 1N5819                  | Taiwan Semiconductor   | 1N5819 R0              |                          | 1568    |
| 1        | J1                      | CON-A-USBSB               | USB-Buchse B print 90°                                     | USB-B                   | Assmann WSW            | A-USBSB                |                          | 1618    |
| 1        | KL1                     |                           | Circuit board  | Circuit board           | frei                   |                        |                          | 2397    |
| 3        | PP1, PP2, PP3           | PP-RTM1364E-Z             | Lötstift quadr. 1,05x10mm verzinkt                         | RTM1364E-Z              | Vogt                   | 1364E 68               |                          | 1570    |
| 1        | Q1                      | TO-39                     | Bipolartransistor, PNP, 80V, 1.5A, 1.5W, TO-39             | BC161-10                | CDL                    | BC161-10               |                          |         |
| 2        | Q2, Q3                  | SC_TO-92                  | Hole TO-92-3   | BC547C                  | On-Semiconductor       | BC547CBLU              |                          | 1169    |
| 1        | Q4                      | HC49/4H_SMX               | Quarze +/-30ppm, 20pF, 40Ohm, 11,059200MHZ FUNDAMENTAL     | 11_059200MHz            | HKC Europe             | 9SM1105920E20F3FZ000   |                          | 1320    |
| 6        | R1, R2, R3, R5, R6, R10 | RES10-7,8X2,8 - 10k       | WIDERSTAND, 207, axial, 1%                                 | 10k                     | frei                   | RMGK010                |                          | 1233    |
| 1        | R4                      | RES10-7,8X2,8             | WIDERSTAND, 207, axial, 1%                                 | 4k7                     |                        |                        |                          | 1587    |
| 2        | R7, R14                 | RES10-7,8X2,8 - 330R      | WIDERSTAND, 207, axial, 1%                                 | 330R                    |                        |                        |                          | 1588    |
| 1        | R8                      | RES10-7,8X2,8             | WIDERSTAND, 207, 1%  | 100R                    |                        |                        |                          | 1678    |
| 1        | R9                      | RES10-7,8X2,8             | Metallsch. 0207 1/4W 1% 1K5 lose                           | 8,2k                    |                        | RMK001.5               |                          |         |
| 2        | R11, R12                | RES10-7,8X2,8 - 1k        | Metallsch. 0207 1/4W 1%                                    | 1k                      | frei                   | RMGK001                |                          | 1235    |
| 1        | R13                     | RES10-7,8X2,8             | WIDERSTAND, 207, 1%  | 1M                      |                        |                        |                          | 1668    |
| 1        | RN1                     | SIP240W50P254L2276H508Q9P | Widerstandnetzwerke u. -Arrays 9pins 10Kohms Bussed        | RN10k                   | Boums                  | 4609X-101-103LF        |                          |         |
| 1        | SW1                     | TMG-325                   | SMD-Taster 1NO 12V 50mA 4,3mm 130gf                        | Tact Switch             | China                  | Product ID: 1813303037 |                          |         |
| 1        | U1                      | N014                      | Quadruple 2-Input Positive-OR Gate                         | SN74HCT32N              | Texas Instruments      | SN74HCT32N             | DL032D                   |         |
| 1        | U2                      | N014                      | AND-Gate, 2 Element  | SN74HCT08N              | TI                     | SN74HCT08N             | DL008D                   |         |
| 1        | U3                      | PDIP28                    | 64-kbit (8 K x 8) 5 V 70 ns CMOS Static RAM - PDIP-28      | 6264-70                 | frei                   | 6264-70                |                          |         |
| 1        | U4                      | N016                      | 3-Line to 8-Line Decoder / Demultiplexer                   | SN74HCT138N             | TI                     | SN74HCT138N            |                          |         |
| 1        | U5                      | SOT1129-1                 | 8052 mit BASIC ROM 8KB, DIP40, 5V                          | 8052AH-BASIC            | Intel                  | 8052AH-BASIC           | +                        |         |
| 1        | U6                      | PDIP28                    | 64-kbit (8 K x 8) 5 V 70 ns CMOS Static RAM - PDIP-28      | SRAM_6264-70/62256      | frei                   | 6264-70                | AS6C62256-55PCN          | 1877    |
| 1        | U7                      | N0020A                    | Octal D-Type Latch, 3-State, 4,5 ... 5,5 V, DIL-20         | SN74HCT573CN            | TI                     | SN74HCT573CN           |                          |         |
| 1        | U8                      | PDIP28                    | 16KB x 8 EPROM   | M27C128                 |                        | M27C128                |                          |         |
| 1        | U9                      | DIP-14                    | USB 2.0 to I2C/UART Protocol Converter with GPIO , PDIP-14 | MCP2221A                | Microchip              | MCP2221A-I/P           |                          | 1596    |
| 1        | U10                     | R-78K                     | DC/DC Conv SIP3 6,5-36V 5V 1A                              | R-78K5.0-1.0            | Recom                  | R-78K5.0-1.0           |                          |         |
| 1        | W1                      | JP2                       | Jumper 3pin  | Jumper 3pin             | frei                   | frei                   |                          | 1564    |
| 4        | W2, W3, W4, W5          | JP2                       | Jumper 3pin  | Jumper 3pin             | frei                   | frei                   |                          | 1564    |
| 1        | X1                      | AK500/2                   | AR-Klemmen 250V 2pol grau                                  | ARK500/2                | PTR-Messtechnik        | AK500/2DS-5,0-V/GRAU   |                          | 1576    |