

## VIS 2.0 GAMEBOY DMG BOM

This is a DIY project for electronic enthusiasts. For this reason, I am not responsible for any damage incurred while attempting this project or after completion of the project. You alone accept all risk since you are 100% liable for damage to yourself or your property.

| COMPONENT   | DESCRIPTION                 | LCSC CODE | Mfr. Part #                              |
|---|-----------------------------|-----------|--|
| DA1, DA2, DA3, DA4  | 100mA Switching Diode       | C2910234  | DA204U                                   |
| D1  | 30V 2A SBD Diode            | C12889    | B230A-13-F                               |
| D2  | 20V Schottky Barrier Diodes | C552826   | PMEG2010EJ,115                           |
| F1, F2  | 6V 2A fuse 0603             | C2757930  | BSMD0603L-200                            |
| Q1  | 30V 4.2A P channel mo       | C306862   | AO3401A                                  |
| Q2  | 20V 6A mosfet               | C16052    | FS8205A                                  |
| Quartz Crystal  | 4.1943 MHz                  |           | (Aliexpress) or grab from the DMG PCB    |
| Potentiometer   | 10k 5pin                    |           | (Aliexpress) or grab from the DMG PCB    |
| RAM x 2   | SOP-28 SRAM                 | C1349771  | AS6C6264-55SIN or grab from DMG/SDMG PCB |
| DMG or SDMG CPU   |                             |           | grab from DMG/SDMG PCB                   |
| Link port   |                             |           | Grab from DMG PCB or from the DMG-07     |
| Power Switch  | 1212 pin 2P4T               | C2939338  | SK24D02G4 or grab from the DMG PCB       |
| Slot cartdridge   | 32 pin                      |           | (Aliexpress) or grab from the DMG PCB    |
| 5 pin conn  | Ph 2.0                      | C10402    | PH-5AW                                   |
| DC Jack 3.5 mm x 1.35 mm  | 2.5x0.7mm 2A 24V            | C381119   | DC-002-2.0A-1.3                          |
| Flat connector  | 21 pin pitch 1.25mm         |           | Made-in-china.com                        |
| R1, R2, R3, R4  | 220 $\Omega$ 100mW 0603     | C107696   | RC0603FR-07220RL                         |
| R7  | 180 k $\Omega$ 100mW 0603   | C123419   | RC0603FR-07180KL                         |
| R8  | 1 M $\Omega$ 100mW 0603     | C105578   | RC0603FR-071ML                           |
| R11   | 47 k $\Omega$ 100mW 0603    | C105579   | RC0603FR-0747KL                          |
| R50, R51  | 510 $\Omega$ 100mW 0603     | C114670   | RC0603FR-07510RL                         |
| R52, R54  | 20 k $\Omega$ 100mW 0603    | C105575   | RC0603FR-0720KL                          |
| R53, R56 (for 1 Watt speaker)   | 30 k $\Omega$ 100mW 0603    | C100001   | RC0603FR-0730KL                          |
| R53, R56 (for 1 Watt speaker, less powerful but low noise from speakers at max level) | 25.5 k $\Omega$ 100mW 0603  | C861257   | RT0603BRD0725K5L                         |
| R53, R56 (for DMG normal speaker)   | 10 k $\Omega$ 100mW 0603    | C98220    | RC0603FR-0710KL                          |
| R55, R71  | 100 k $\Omega$ 100mW 0603   | C14675    | RC0603FR-07100KL                         |
| R70   | 732 k $\Omega$ 100mW 0603   | C228042   | AC0603FR-07732KL                         |
| Solder a feedforward capacitor for U3 in parallel to R70                              | 220 pF                      | C388907   | GCM1885C2A221JA16D                       |
| R80, R82, R83   | 1 k $\Omega$ 100mW 0603     | C22548    | RC0603FR-071KL                           |
| R81 (for 0.5A charging)   | 2 k $\Omega$ 100mW 0603     | C227483   | AC0603DR-072KL                           |
| R81 (for 0.9A charging)   | 1.21 k $\Omega$ 100mW 0603  | C705737   | RT0603BRD071K21L                         |
| R84   | 100 $\Omega$ 100mW 0603     | C105588   | RC0603FR-07100RL                         |
| C10, C75, C82, C92, C93, C94  | 100 nF 50V 0603             | C14663    | CC0603KRX7R9BB104                        |
| C11, C12, C13, C14, C15   | 10 nF 50V 0603              | C100042   | CC0603KRX7R9BB103                        |
| C16, C17, C18, C19  | 100 pF 50V 0603             | C14665    | CC0603JRNPO9BN101                        |
| C21, C22  | 27 pF 50V 0603              | C162215   | GRM1885C1H270FA01D                       |
| C37, C74, C81   | 10 $\mu$ F 10V 0603         | C77044    | GRM188R61A106KE69D                       |
| C50, C51  | 390 nF 16V 0603             | C437460   | GCM188R71C394KA55D                       |
| C52, C53, C54, C55, C56, C72, C73, C78, C95   | 1 uF 16V 0603               | C77049    | GRM188R71C105KE15D                       |
| C70, C71  | 100 $\mu$ F 6.3V D=5mm      | C336192   | EEE0JA101WR                              |

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|                              |  |                   |                          |
|------------------------------|--|-------------------|--------------------------|
| C76, C77                     | 22 uF 10V 0603   | C84419            | GRM188R61A226ME15D       |
| U1                           | SOT23-6 Battery  | C18164398         | DW01A                    |
| U2                           | TP4056   | C16581            | TP4056-42-ESOP8          |
| U3                           | boost converter SOT-563<br>(solder a 220pF capacitor in<br>parallel to R70 to improve<br>loop stability of U3 boost) | C919459           | TPS61023DRLR             |
| U4                           | LDO 5v ultra-low noise   | C2864504          | TPS7A2050PDBVR           |
| U5                           | 3.3v LDO SOT23-5   | C892187           | NCP161ASN330T1G          |
| U5 cheaper alternative       | 3.3v LDO SOT23-5   | C3021095          | TPNCP161ASN330T1G        |
| U6                           | Audio Amp VSSOP-10 Amps  | C2872995          | LM4853MM/NOPB            |
| L1                           | 7A 1uH Power Inductor  | C285722           | MHCI06018-1R0M-R8A       |
| L2                           | 200mA 5.6uH ±5% 1210<br>Power Induct   | C295106           | NLV32T-5R6J-EF           |
| LED GREEN                    | 25mA 0603  | C965805           | XL-1608SYGC-06           |
| LED RED                      | 20mA 0603  | C125099           | LTST-C191KRKT            |
| -----                        | -----  | -----             | -----                    |
| L1, L2, L3                   | 420mA 33uH 1210  | C2047418          | BRL3225T330K             |
| Audio Jack                   |  | C397344           | PJ-3655-SMT              |
| R1, R2                       | 1 kΩ 125mW 0805  | C95781            | RC0805FR-071KL           |
| C1, C2, C3                   | 100 μF 6.3V 4mm SMD  | C401761           | EEEF0J101AR              |
| Audio speaker                | 1w 8Ω  |                   | (Retrosix)               |
| 2 pin conn                   | Ph 2.0   | C16965            | PH-2AW                   |
| 5 pin conn                   | Ph 2.0   | C10402            | PH-5AW                   |
| -----                        | -----  | -----             | -----                    |
| Wheel IPS                    | Contrast wheel   | C2925423          | SIQ-02FVS3               |
| CHIP NH245                   | NH245  | C27643            | SN74LVC8T245PWR          |
| D1, D2, D3, D4               | Dual Common Cathode  | C2903788          | BAT54 o BAT54C           |
| RR2, RR3, RR4                | 620 Ω 100mW 0603   | C137695           | RC0603FR-07620RL         |
| RB2, RG2, RB3, RG3, RB4, RG4 | 470 Ω 100mW 0603   | C114669           | RC0603FR-07470RL         |
| RB1, RG1                     | 1 kΩ 100mW 0603  | C22548            | RC0603FR-071KL           |
| RR1                          | 1.21 kΩ 100mW 0603   | C705737           | RT0603BRD071K21L         |
| C1, C2                       | 120 nF 16V 0603  | C384792           | 0603B124K160CT           |
| CL1, CL2, CL3, CL4           | 1 uF 16V 0603  | C77049            | GRM188R71C105KE15D       |
| 18 pin connector             | FFC/FCP pitch 0.5mm  | C283125           | THD0510-18CL-GF          |
| Tactile switches x 6         | 7mm 0.6mm Round Button   | C125046<br>C97437 | SKRRABE010<br>SKRRAAE010 |
| RGB LEDs x 4                 | Reverse mounting LED   | C2802677          | E6CC1205RGBC3UDA         |
| Flat connector               | 21 pin pitch 1.25mm  |                   | Made-in-china.com        |
| LED buttons switches x 3     | 300mA SPDT   | C109335           | SSSS811101               |
| -----                        | -----  | -----             | -----                    |
| PCB Welding Terminal x 4     | PCB Welding Terminal   | C481440           | TS30000                  |
| Mounting resistors x 9       | 0 Ω 250mW 1206   | C17888            | 1206W4F0000T5E           |
| -----                        | -----  | -----             | -----                    |
| 2 pin conn                   | Ph 2.0 housing   | C10408            | PH-2Y                    |
| 5 pin conn                   | Ph 2.0 housing   | C10411            | PH-5Y                    |

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For cables