

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 Ω 100mW 0603	C107696	RC0603FR-07220RL
R7	180 k Ω 100mW 0603	C123419	RC0603FR-07180KL
R8	1 M Ω 100mW 0603	C105578	RC0603FR-071ML
R11	47 k Ω 100mW 0603	C105579	RC0603FR-0747KL
R50, R51	510 Ω 100mW 0603	C114670	RC0603FR-07510RL
R52, R54	20 k Ω 100mW 0603	C105575	RC0603FR-0720KL
R53, R56 (for 1 Watt speaker)	30 k Ω 100mW 0603	C100001	RC0603FR-0730KL
R53, R56 (for 1 Watt speaker, less powerful but low noise from speakers at max level)	25.5 k Ω 100mW 0603	C861257	RT0603BRD0725K5L
R53, R56 (for DMG normal speaker)	10 k Ω 100mW 0603	C98220	RC0603FR-0710KL
R55, R71	100 k Ω 100mW 0603	C14675	RC0603FR-07100KL
R70	732 k Ω 100mW 0603	C228042	AC0603FR-07732KL
Solder a feedforward capacitor for U3 in parallel to R70	220 pF	C388907	GCM1885C2A221JA16D
R80, R82, R83	1 k Ω 100mW 0603	C22548	RC0603FR-071KL
R81 (for 0.5A charging)	2 k Ω 100mW 0603	C227483	AC0603DR-072KL
R81 (for 0.9A charging)	1.21 k Ω 100mW 0603	C705737	RT0603BRD071K21L
R84	100 Ω 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 μ F 10V 0603	C77044	GRM188R61A106KE69D
C50, C51	390 nF 16V 0603	C437460	GCM188R71C394KA55D
C52, C53 (normal audio bass)	1 μ F 16V 0603	C77049	GRM188R71C105KE15D
C52, C53 (audio "bass mod")	10 μ F 10V 0603	C77044	GRM188R61A106KE69D

MAINBOARD

C54, C55, C56, C72, C73, C78, C95	1 uF 16V 0603	C77049	GRM188R71C105KE15D
C70, C71	100 µF 6.3V D=5mm	C336192	EEE0JA101WR
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 (solder a 220pF capacitor in parallel to R70 to improve 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	6A 2.2uH Power Inductor	C142092	MHCI06018-2R2M-R8A
L2	200mA 5.6uH ±5% 1210 Power Induct	C295106	NLV32T-5R6J-EF
LED GREEN	25mA 0603	C965805	XL-1608SYGC-06
LED RED	20mA 0603	C125099	LTST-C191KRKT
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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	EEFT0J101AR
Audio speaker	1w 8Ω		(Retrosix)
2 pin conn	Ph 2.0	C16965	PH-2AW
5 pin conn	Ph 2.0	C10402	PH-5AW
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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 C97437	SKRRABE010 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
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PCB Welding Terminal x 4	PCB Welding Terminal	C481440	TS30000
Mounting resistors x 9	0 Ω 250mW 1206	C17888	1206W4F0000T5E
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2 pin conn	Ph 2.0 housing	C10408	PH-2Y
5 pin conn	Ph 2.0 housing	C10411	PH-5Y

MAINBOARD
AUDIO
IPS
IPS OSD v5
BOARD
BOARD
BRACKET
For cables