

PCB BOM Template for PCB Assembly

Practical BOM format reference for PCB sourcing and SMT assembly projects.

Why BOM Formatting Matters?

Poor BOM formatting can lead to:

- ✓ Component sourcing delays
- ✓ Wrong package selection
- ✓ Duplicate reference designators
- ✓ Assembly quotation issues
- ✓ Longer lead times

UNIT CIRCUITS
Sample Bill of Materials (BOM)_Unit Circuits

Item #	Ref Des	Description	Qty	Manufacturer	Mfg Part #	Package	Type
1	U1	500mA Peak Output LDO Regulator	1	STMicro	MIC5219-3.3VMS-TR	SOT-23-5	SMD
2	U2, U4	MCU ARM Cortex M3 MCU Connector	2	STMicroelectronics	PC121987000,151	QFP-80	SMD
3	U3	MAX3174C RES VOLT ADJ 500MA DP4K	1	ON	MAX3174R0T0	DP4K	SMD
4	U5	IC PIC MCU FLASH 4KX14 20SSOP	1	STMicro	PIC18F990-1/05	20SSOP	SMD
5	D1	RECT BRIDGE GPP 50V 10A GB	1	Shohe Inc	BR110005-F	GB	SMD
6	R14, R18	RES 4.70K OHM 1/8W 1% 0805 SMD	2	Panasonic	ER-6KH4701V	805	SMD
7	R15	RES 022 OHM 1W 1% 0805 SMD	1	Solomo	RL7200W1-R022-F	815	SMD
8	R16, R31	RES 4.70K OHM 1/8W 1% 0805 SMD	2	Panasonic	ER-6KH4702V	805	SMD
9	C5	CAP CER 2.2UF 16V X7R 0805	1	Surate	08M218R71C225K0321	805	SMD
10	C7	CAP CER 4.7UF 16V X7R 0805	1	Surate	08M218R71C475K0321	805	SMD
11	C8, C22	CAP CER 1.0UF 16V 10% X7R 0805	2	Murata	08M218R71C105K0321	805	SMD
12	CN6	1.25mm Connectors VERTICAL HOE SMT 6P	1	Shohe	1.25-5338-0671	SMT 6P	SMD
13	L1, L2	Inductor	2	Surate	08M10999-4K51	SMD	SMD
14	L3	CHOKE COMMON MODE 1000 OHM 6A SMD	1	TDK	CMC1211-102-2R/7L	SMD	SMD
15	CN3, CN4	CONN HEADER SPOS 1.25MM VERT TIN	2	Shohe	1.25-5338-0671	SPOS	Thru-hole

Recommended PCB BOM Fields

Field	Required	Example	Purpose
Part Number	Yes	STM32F103	sourcing
Description	Yes	MCU	identification
Quantity	Yes	10	procurement
Package	Recommended	QFP64	assembly
Manufacturer	Recommended	ST	purchasing
Alternative Part	Optional	GD32	supply flexibility

Common PCB BOM Mistakes

Mistake	Manufacturing Risk
Missing MPN	sourcing delay
Wrong package	assembly mismatch
Duplicate references	placement confusion
Obsolete components	procurement failure
No alternates	long lead time

Final BOM Submission Checklist

- ✓ Consistent reference designators
- ✓ Correct manufacturer part numbers
- ✓ Package information included
- ✓ Alternative parts reviewed
- ✓ Excel format verified

DOWNLOAD PCB BOM TEMPLATE

[EXCEL BOM TEMPLATE](#)

✓ Related PCB Procurement Resources

- ✓ [SMT Factory Audit Checklist](#)
- ✓ [Gerber Submission Guide](#)
- ✓ [PCB Manufacturer Selection Guide](#)
- ✓ [PCB Assembly Cost Guide](#)