

Handy hints for creating BOMs

Bills of materials come to us in many forms and formats. In general, most of the information is included. Invariably however, some information is missing to properly purchase the parts. We then have to get this clarified or we may end up buying the wrong part. While this can be fixed up the real cost is in the delay it causes.

In order to better purchase and therefore avoid delays we have put together the following “handy hints” for describing parts. It is not comprehensive but you will get the concept. This is a tried and proven method that we have developed over many years.

Our preferred format for a BOM is as follows, supplied in Microsoft Excel or Word files. We specifically ask that you do not send PDF files. Further below are some added “handy hints”.

Rohs or not Rohs

Nearly all parts today are supplied as Rohs compliant. For a fully Rohs compliant job you must advise us so that we buy 100% Rohs and that we use Rohs consumables.

Preferred format of BOMs

Item	Description	Quantity	Designator
Capacitor	Tantalum, 10u0, 25V, C case	1	C1
Capacitor	Ceramic X7R, 10u0, 25V, 1206	2	C2 3
Capacitor	Tantalum, 10u0, 25V, Radial, 5mmP	3	C4 5 6
Capacitor	Tantalum, 10u0, 25V, Axial	22	C21-44
Capacitor	Tantalum, 10u0, 25V, C case, Panasonic xyz only	1	C7
Capacitor	Tantalum, 10u0, 25V, C case, Panasonic xyz or equivalent	1	C8

Resistor	100k0, 1%, W25, 0805	10	R1-10
Resistor	100k0, 1%, W25	2	R2 3
IC	MAX323EUI OR EQUIV	1	U1
IC	MAX323EUI ONLY	3	U2-4
IC	7805 TO-220	1	U5
CONNECTOR	D25, pcb mount, straight, male pins, integral standoffs with 4-40 thread, harpoon barbs, 15um gold plated, metal body.	1	J1
CONNECTOR	Pin header, 2 x 20 way, 2mmP	11	J2-12
CONNECTOR	PHOENIX MSTB/12-5.08 OR EQUIV	1	J13
CONNECTOR	FUJITSU FCC123-4 ONLY	1	J14

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Item	Description (Minimum parameters)	Notes
Capacitor	Dielectric, Value, Voltage, Package (SM) or pitch (TH)	Other parameters such as temperature, Tolerance, Size restrictions, ESR, manufacturer's p/n may also be incorporated if they are considered essential
E.G.	Capacitor Tantalum, 10u0, 25V, C case	
E.G.	Capacitor Ceramic X7R, 10u0, 25V, 1206	
E.G.	Capacitor Tantalum, 10u0, 25V, Radial, 5mmP	
E.G.	Capacitor Tantalum, 10u0, 25V, Axial	
E.G.	Capacitor Tantalum, 10u0, 25V, C case, Panasonic xyz only	This format gives quick guide to what is required as well as providing very explicit instruction what you want. It allows for proper verification on delivery.
E.G.	Capacitor Tantalum, 10u0, 25V, C case, Panasonic xyz or equivalent	As above but allows different brands to be used.

	Resistor	Value, Tolerance, Wattage (optional for SM but essential for TH), Package, (essential for SM but optional for TH)	Other parameters such as temperature coefficient, body material, mounting, manufacturer's p/n may also be incorporated if it is considered essential
E.G.	Resistor	100k0, 1%, 0805	
E.G.	Resistor	100k0, 1%, W25	
	IC	Generic part number + Package or full manufacturer's p/n including suffixes + package	
E.G.	IC	MAX323EUI OR EQUIV, SO-16	This makes getting alternatives easier.
E.G.	IC	MAX323EPI ONLY, DIP16	This will ensure that only the brand you want is used.
	IC	7805, TO-220	This will allow any generic 7805 TO-220 to be used.
	CONNECTOR	Complete generic description or full manufacturer's part number with the words "only" or "or equiv" added.	
e.g.	CONNECTOR	D25, pcb mount, straight, male pins, integral standoffs with 4-40 thread, harpoon barbs, 15um gold plated, metal body.	As you can see connectors can be difficult. A complete description is not impossible. Parameters that are not included are taken as not important and any option is acceptable. E.g. if this description did not state "metal body" it is assumed that a plastic or metal body is acceptable.
e.g.	CONNECTOR	Pin header, 2 x 20 way, 2mmP	This will give you "standard" 2 row pin header. The length of pins is not defined but they will be "average" length, may be gold or tin plated. The pitch is as specified.
e.g.	CONNECTOR	PHOENIX MSTB/12-5.08 OR EQUIV	This is a far more friendly way of fully specifying a connector and can still have multi sourcing.
e.g.	CONNECTOR	FUJITSU FCC123-4 ONLY	This approach gives the brand and part no you nominate.