

Bill of Materials

Group : 7			
RESISTORS	PATTERN / IMAGE	Total Parts	Cost
0.2 1%	0805	2	£0.01
24 5%	0805	2	£0.01
100 5%	0805	1	£0.01
180 5%	0805	1	£0.01
300 5%	0805	1	£0.01
2K0 5%	0805	1	£0.01
2K4 5%	0805	1	£0.01
3K0 5%	0805	3	£0.01
6K8 5%	0805	1	£0.01
27K 5%	0805	1	£0.01
Capacitors	PATTERN		
1.5nF X7R 10% 63V	0805	2	£0.05
330uF 20% 16V	https://www.farnell.com/datasheets/3486024.pdf	2	£0.10
Inductors	PATTERN		
	<i>Note : non-standard pattern</i>		
220uH 20% 0.37A 1.48Ω	Bourns® Inductive Components (rs-online.com)	2	£0.55
Diodes	PATTERN		
1N5819HW	SOD-123	2	£0.15
TRANSISTORS	PATTERN		
BC817-40W	SOT-323	4	£0.13
ICS	PATTERN		
MC33063AD	SOIC-8	2	£0.55
Header Pins			
6 contacts, 1 row	Connector-header-6pos-2-54mm-1row	1	£0.30
		Component Sum	29
		Total Cost	£3.76

Non-Recurring Cost

Engineer/Technician Salary	Hours	Hourly Rate	Cost
Design	20	40	£800
Verification	8	40	£320
Documentation	7	40	£280
Technician	3	20	£60

Equipment	Cost
Rhode & Schwarz Oscilloscope	£2500
Rhode & Schwarz DC Power Supply	£1200
Rigol Multimeter	£359
Other Lab Equipment (Cables, test leads, etc)	£30

Contingency Cost	Cost
5% Contingency Cost from total of other non-recurring costs	£277.45

Testing Cost	Cost
10 through-hole resistors	£0.10

Total non-recurring cost: £5826.55

Recurring Cost

Type	Cost
PCB Components for 200 units	£752
PCB Manufacturing (Outsourced) for 200 units	£180
PCB Assembly (Outsourced) for 200 units	£500
3.5V Input Voltage	£3.5

Total recurring cost for 1 unit: £10.66

Total Cost to Manufacture 200 units of Power Supply

Type	Cost
Non-recurring Cost	£5826.55
Recurring Cost for 1 unit	£10.66
Cost to manufacture 200 units	£7958.55
Cost per unit	£39.80

References

Outsourced PCB Manufacturing and Assembly company: <https://www.quick-teck.co.uk/onlinequote/onlinequote.php>

$$(\text{Cost per unit}) = (\text{Recurring cost}) + \frac{(\text{Non – recurring cost})}{(\text{Number of units produced})}$$