

4 Bill of Materials, Board Layout, and Schematics

4.1 Bill of Materials — bq24300/02/04/10/14/16

b	b	b	b	b	b	b	b	b	RefDes	Value	Description	Size	Part Number	MFR
q	q	q	q	q	q	q	q	q						
2	2	2	2	2	2	2	2	2						
4	4	4	4	4	4	4	4	4						
3	3	3	3	3	3	3	3	3						
0	0	0	0	1	1	1	1	1						
0	2	4	8	0	2	4	6	6						
-	-	-	-	-	-	-	-	-						
0	0	0	0	0	0	0	0	0						
0	0	0	0	0	0	0	0	0						
1	2	3	4	5	6	7	8	8						
1	1	1	1	0	0	0	0	0	C1	1 µF	Capacitor, Ceramic, 35-V, X7R, 10%	805	Std	Std
1	1	1	1	1	1	1	1	1	C2	1 µF	Capacitor, Ceramic, 35-V, X7R, 10%	805	Std	Std
3	3	3	3	3	3	3	3	3	C3–C5	1 µF	Capacitor, Ceramic, 16-V, X7R, 10%	805	Std	Std
1	1	1	1	1	1	1	1	1	D1	BZT52C5V1S	Diode, Zener, 200mW, 5.1V	SOD-323	BZT52C5V1S	General
4	4	4	4	4	4	4	4	4	D2, D3, D5, D6	LTST-C190GKT	Diode, LED, Green, 2.1-V, 20-mA, 6-mcd	603	LTST-C190GKT	Liteon
1	1	1	1	1	1	1	1	1	D4	LTST-C190CKT	Diode, LED, Red, 1.8-V, 20-mA, 20-mcd	603	LTST-C190CKT	Liteon
3	3	3	3	3	3	3	3	3	J1–J4	ED1514	Terminal Block, 2-pin, 6-A, 3.5mm	0.27 x 0.25 in	ED1514	OST
1	1	1	1	1	1	1	1	1	J2	ED1516	Terminal Block, 4-pin, 6-A, 3.5mm	0.55 x 0.25 in	ED1516	OST
8	8	8	8	8	8	8	8	8	JMP1–JMP8	PTC36SAAN	Header, 2-pin, 100mil spacing, (36-pin strip)	0.100 in x 2	PTC36SAAN	Sullins
8	8	8	8	8	8	8	8	8	JMP1–JMP8	929950-00	Shorting jumpers, 2-pin, 100mil spacing		929950-00	3M/ESD
1	1	1	1	0	0	0	0	0	Q1	Si2343DS	MOSFET, Pch, –30 V, 4 A, 53 mΩ	SOT23	Si2343DS	Vishay
1	1	1	1	0	0	0	0	0	R1	100k	Resistor, Chip, 1/16W, 5%	603	Std	Std
0	0	0	0	1	1	1	1	1	R2	0	Resistor, Chip, 1/8W, 5%	1206	Std	Std
1	1	1	1	1	1	1	1	1	R3	20k	Resistor, Chip, 1/16W, 5%	603	Std	Std
0	0	0	1	0	0	0	0	0	R4	113k	Resistor, Chip, 1/16W, 1%	603	Std	Std
0	0	0	0	1	1	1	1	1	R5	24.9k	Resistor, Chip, 1/16W, 1%	603	Std	Std
1	0	1	1	1	1	1	1	1	R6	100k	Resistor, Chip, 1/16W, 5%	603	Std	Std
1	1	1	1	1	1	1	1	1	R7	6.2k	Resistor, Chip, 1/16-W, 5%	603	Std	Std
1	1	1	1	1	1	1	1	1	R9	20k	Resistor, Chip, 1/16-W, 5%	603	Std	Std
5	5	5	5	5	5	5	5	5	R8, R11–R14	1.5k	Resistor, Chip, 1/16-W, 5%	603	Std	Std
0	0	0	0	1	1	1	1	1	R10	1.13k	Resistor, Chip, 1/16-W, 1%	603	Std	Std
1	1	1	1	0	0	0	0	0	R10	4.02k	Resistor, Chip, 1/16-W, 1%	603	Std	Std
0	0	0	0	1	1	0	0	0	R15	137k	Resistor, Chip, 1/16-W, 1%	603	Std	Std
0	0	0	0	1	1	1	1	1	R16	100k	Resistor, Chip, 1/16-W, 5%	603	Std	Std
1	0	0	0	0	0	0	0	0	U1	bq24300DSG	IC, Li+ Charger Front-End Protection	DSG8	bq24300DSG	TI
0	1	0	0	0	0	0	0	0	U1	bq24302DSG	IC, Li+ Charger Front-End Protection	DSG8	bq24302DSG	TI
0	0	1	0	0	0	0	0	0	U1	bq24304DSG	IC, Li+ Charger Front-End Protection	DSG8	bq24304DSG	TI
0	0	0	1	0	0	0	0	0	U1	bq24308DSG	IC, Li+ Charger Front-End Protection	DSG8	bq24308DSG	TI
0	0	0	0	1	0	0	0	0	U1	bq24310DSG	IC, Li+ Charger Front-End Protection	DSG8	bq24310DSG	TI
0	0	0	0	0	1	0	0	0	U1	bq24312DSG	IC, Li+ Charger Front-End Protection	DSG8	bq24312DSG	TI
0	0	0	0	0	0	1	0	0	U1	bq24314DSG	IC, Li+ Charger Front-End Protection	DSG8	bq24314DSG	TI
0	0	0	0	0	0	0	1	0	U1	bq24316DSG	IC, Li+ Charger Front-End Protection	DSG8	bq24316DSG	TI
1	1	1	1	1	1	1	1	1	U2	bq24080DRC	IC, Single Chip, Li Ion/Li POL, Charger	DRC10	bq24080DRC	TI
1	1	1	1	1	1	1	1	1	—	HPA245	PCB, 1.2 In x 3 In x 0.031 In		PCB	Any

Notes:

- Number 0 in left side columns means do not use this component.
- OPEN in value column means do not use this component.
- Std in part number column means standard manufacturer's part number
- Std in MFR column means standard manufacturer

4.2 Bill of Materials — bq24380/1/14A/15/05

b q 2 4 4 3 8 0 - 0 0 9	b q 2 4 4 3 8 0 - 0 0 9	b q 2 4 4 3 8 0 - 0 0 9	b q 2 4 4 3 8 0 - 0 0 9	b q 2 4 4 3 8 0 - 0 0 9	RefDes	Value	Description	Size	Part Number	MFR
0	0	0	0	1	C1	1 μ F	Capacitor, Ceramic, 35-V, X7R, 10%	805	Std	Std
1	1	1	1	1	C2	1 μ F	Capacitor, Ceramic, 35-V, X7R, 10%	805	Std	Std
3	3	3	3	3	C3–C5	1 μ F	Capacitor, Ceramic, 16-V, X7R, 5%	805	Std	Std
1	1	1	1	1	D1	BZT52C5V1S	Diode, Zener, 200mW, 5.1V	SOD-323	BZT52C5V1S	General
4	4	4	4	4	D2,D3,D5,D6	LTST-C190GKT	Diode, LED, Green, 2.1-V, 20-mA, 6-mcd	603	LTST-C190GKT	Liteon
1	1	1	1	1	D4	LTST-C190CKT	Diode, LED, Red, 1.8-V, 20-mA, 20-mcd	603	LTST-C190CKT	Liteon
3	3	3	3	3	J1, J3, J4	ED1514	Terminal Block, 2-pin, 6-A, 3.5mm	0.27 \times 0.25 inch	ED1514	OST
1	1	1	1	1	J2	ED1516	Terminal Block, 4-pin, 6-A, 3.5mm	0.55 \times 0.25 inch	ED1516	OST
8	8	8	8	8	JMP1–JMP8	PTC36SAAN	Header, 2-pin, 100mil spacing, (36-pin strip)	0.100 inch \times 2	PTC36SAAN	Sullins
8	8	8	8	8	JMP1–JMP8	929950-00	Shorting jumpers, 2-pin, 100mil spacing		929950-00	3M/ESD
0	0	0	0	1	Q1	Si2343DS	MOSFET, Pch, –30 V, 4 A, 53 m Ω	SOT23	Si2343DS	Vishay
0	0	0	0	1	R1	100k	Resistor, Chip, 1/16W, 5%	603	Std	Std
1	1	1	1	0	R2	0	Resistor, Chip, 1/16W, 5%	1206	Std	Std
1	1	1	1	1	R3	20k	Resistor, Chip, 1/16W, 5%	603	Std	Std
0	0	0	0	0	R4	113k	Resistor, Chip, 1/16W, 1%	603	Std	Std
0	0	1	1	0	R5	24.9k	Resistor, Chip, 1/16W, 1%	603	Std	Std
1	1	1	1	1	R6	100k	Resistor, Chip, 1/16W, 5%	603	Std	Std
1	1	1	1	1	R7	6.2k	Resistor, Chip, 1/16W, 5%	603	Std	Std
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5	5	5	5	5	R8, R11–R14	1.5k	Resistor, Chip, 1/16W, 5%	603	Std	Std
1	1	1	1	0	R10	1.13k	Resistor, Chip, 1/16W, 1%	603	Std	Std
0	0	0	0	1	R10	4.02k	Resistor, Chip, 1/16W, 1%	603	Std	Std
0	0	0	0	0	R15	137k	Resistor, Chip, 1/16W, 5%	603	Std	Std
1	1	1	1	0	R16	100k	Resistor, Chip, 1/16W, 5%	603	Std	Std
1	0	0	0	0	U1	BQ24380DSG	IC, Li+ Charger Front-End Protection	DSG8	BQ24380DSG	TI
0	1	0	0	0	U1	BQ24381DSG	IC, Li+ Charger Front-End Protection	DSG8	BQ24381DSG	TI
0	0	1	0	0	U1	BQ24314ADSG	IC, Li+ Charger Front-End Protection	DSG8	BQ24314ADSG	TI
0	0	0	1	0	U1	BQ24315DSG	IC, Li+ Charger Front-End Protection	DSG8	BQ24315DSG	TI
0	0	0	0	1	U1	BQ24305DSG	IC, Li+ Charger Front-End Protection	DSG8	BQ24305DSG	TI
1	1	1	1	1	—	HPA245	PCB, 1.2 In \times 3 In \times 0.031 In		PCB	Any

Notes:

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3. Std in part number column means standard manufacturer's part number
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