

4 Bill of Materials, Board Layout, and Schematics

Table 2. Bill of Materials

-001 bq24725A	-002 bq24735	RefDes	Value	Description	Size	Part Number	MFR
1	1	C1	2.2 μ F	Capacitor, Ceramic, 25V, X7R, 10%	1210	Std	Std
6	6	C2, C3, C4, C5, C6, C7	10 μ F	Capacitor, Ceramic, 25V, X7R, 10%	1206	Std	Std
6	6	C8, C14, C15, C16, C17, C19	0.1 μ F	Capacitor, Ceramic, 25V, X7R, 10%	603	Std	Std
4	4	C9, C10, C20, C25	1 μ F	Capacitor, Ceramic, 25V, X7R, 10%	603	Std	Std
3	3	C11, C12, C27	0.01 μ F	Capacitor, Ceramic, 25V, X7R, 10%	603	Std	Std
0	0	C13, C18, C24	Open	Capacitor, Ceramic, 25V, X7R, 10%	603	Std	Std
1	1	C21	0.047 μ F	Capacitor, Ceramic, 25V, X7R, 10%	603	Std	Std
1	1	C22	100 pF	Capacitor, Ceramic, 25V, X7R, 10%	603	Std	Std
1	1	C23	2200 pF	Capacitor, Ceramic, 25V, X7R, 10%	603	Std	Std
1	1	C26	1000 pF	Capacitor, Ceramic, 25V, X7R, 10%	603	Std	Std
1	1	D1	BAT54-V-G	Diode, Schottky, 200-mA, 30-V	SOT23	BAT54-V-G	Vishay-Liteon
1	1	D2	BAT54C-V-G	Diode, Dual Schottky, 200-mA, 30-V	SOT23	BAT54C-V-G	Vishay-Liteon
1	1	J1	ED120/2DS	Terminal Block, 2-pin, 15-A, 5.1mm	0.40 x 0.35 inch	ED120/2DS	OST
1	1	J2	ED120/3DS	Terminal Block, 3-pin, 15-A, 5.1mm	0.60 x 0.35 inch	ED120/3DS	OST
2	2	J3, J4	ED555/3DS	Terminal Block, 3-pin, 6-A, 3.5mm	0.41 x 0.25 inch	ED555/3DS	OST
1	1	JP1	PEC02SAAN	Header, Male 2-pin, 100mil spacing,	0.100 inch x 2	PEC02SAAN	Sullins
1	1	SH1	929950-00	Shorting jumpers, 2-pin, 100mil spacing,		929950-00	3M/ESD
1	1	L1	4.7 μ H	Inductor, SMT	0.255 x 0.270 inch	IHLP2525CZER4R7M01	Vishay
3	3	Q1, Q2, Q3	CSD17307Q5A	MOSFET, NChan, 30V, 14A, 9.5millohm	PWRPAK S0-8	CSD17307Q5A	Texas Instruments
2	2	Q4, Q5	CSD17308Q3A	MOSFET, NChan, 30V, 13A, 9.4millohm	PWRPAK 1212	CSD17308Q3A	Texas Instruments
1	1	Q6	BSS138W-7-F	MOSFET, Nch, 50V, 200mA,	SOT-323	BSS138W-7-F	Diodes
2	2	R1, R2	0.01	Resistor, Chip, 1/2W, 1% 150PPM Resistor, Chip, 1W, 1% 75 PPM	1206	PMR18EZPFU10L0 WSLP1206R0100FEA	Rohm Vishay/Dale
1	1	R3	0	Resistor, Chip, 1/16W, 5%	603	Std	Std
1	1	R5	20	Resistor, Chip, 1/16W, 1%	603	Std	Std
1	1	R4	7.5	Resistor, Chip, 1/16W, 1%	603	Std	Std
2	2	R6, R7	3.9	Resistor, Chip, 0.5W, 5%	1210	Std	Std
3	3	R8, R9, R13	4.02k	Resistor, Chip, 1/10W, 1%	603	Std	Std
0	0	R10, R11	Open	Resistor, Chip, 1/16W, 1%	603	Std	Std
1	1	R12	1.00M	Resistor, Chip, 1/16W, 1%	603	Std	Std
1	1	R14	66.5k	Resistor, Chip, 1/16W, 1%	603	Std	Std
1	1	R15	430k	Resistor, Chip, 1/16W, 1%	603	Std	Std
1	1	R16	10.0	Resistor, Chip, 1/4W, 1%	1206	Std	Std
3	3	R17, R18, R19	10.0k	Resistor, Chip, 1/16W, 1%	603	Std	Std

Table 2. Bill of Materials (continued)

-001 bq24725A	-002 bq24735	RefDes	Value	Description	Size	Part Number	MFR
1	1	R20	100k	Resistor, Chip, 1/16W, 1%	603	Std	Std
1	1	R21	12.1k	Resistor, Chip, 1/16W, 1%	603	Std	Std
1	1	R22	316k	Resistor, Chip, 1/16W, 1%	603	Std	Std
1	1	R23	3.01M	Resistor, Chip, 1/16W, 1%	603	Std	Std
1	1	R24	10	Resistor, Chip, 1/16W, 1%	603	Std	Std
1	1	TP1	131-4244-00	Adaptor, 3.5-mm probe clip (or 131-5031-00)	0.200 inch	131-4244-00	Tektronix
11	11	TP2, TP3, TP4, TP5, TP6, TP7, TP8, TP9, TP10, TP11, TP12		Test Point, White, Thru Hole Color Keyed	0.100 x 0.100 inch	5002	Keystone
1	1	TP13	GND	Test Point, Black, Thru Hole Color Keyed	0.100 x 0.100 inch	5001	Keystone
0	0	TP14, 15, 16, 17, 18					
4	4			6-32 NYL nuts		NY HN 632	Building Fasteners
4	4	ST1,ST2,ST3,ST4	4816	STANDOFF M/F HEX 6-32 NYL .500"	sf_thvt_325_rnd	4816	Keystone
1	0	U1	bq24725ARGR	IC, SMBus Charge Controller with NMOS Selector		bq24725ARGR	TI
0	1	U1	bq24735RGR	IC, SMBus Charge Controller with NMOS Selector		bq24735RGR	TI
1	1	—		Label	1.25 x 0.25 inch	THT-13-457-10	Brady
1	1	—	HPA710	2.5x2.5inch 4 layer 2oz. PCB	2.5x2.5inch	PCB	Any

- Notes: 1. These assemblies are ESD sensitive, ESD precautions shall be observed.
 2. These assemblies must be clean and free from flux and all contaminants.
 3. Use of no clean flux is not acceptable.
 4. Ref designators marked with an asterisk (***) cannot be substituted. All other components can be substituted with equivalent MFG's components.
 5. Install label after final wash. Text shall be 8 pt font. Text shall be per Table 1.

Table 1.

Assembly Number	Text
HPA710-001	bq24725AEVM-710
HPA710-002	bq24735EVM-710

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