

**Bias Card REV B Bill of Materials**

Item #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference
1	IPC8	1		Bias Card	Any	Printed Circuit Board	
2	C1, C2	2	1000pF	C0603C102J5RACAUTO	Kemet	CAP, CERM, 1000 pF, 50 V, +/- 5%, X7R, AEC-Q200 Grade 1, 0603	0603
3	C3, C5, C15, C27, C30, C43, C44, C50, C51, C52, C56, C70, C79	13	10uF	CGA5L1X7R1H106K160AC	TDK	CAP, CERM, 10 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
4	C4, C7	2	2.2uF	GRM188R71A225KE15J	MuRata	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
5	C6, C21, C39, C47, C48	5	1uF	CGA3E1X7R1E105K080AC	TDK	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
6	C8, C9, C14, C16, C20, C37, C42, C46	8	0.1uF	GCM155R71H104KE02D	MuRata	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
7	C10, C12	2	0.1uF	CGA3E2X7R1H104K080AA	TDK	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
8	C11	1	4.7uF	GRT188R61C475KE13D	MuRata	CAP, CERM, 4.7 uF, 16 V, +/- 10%, X5R, AEC-Q200 Grade 3, 0603	0603
9	C13, C17, C18, C19	4	22uF	CGA6P3X7R1E226M250AB	TDK	Cap Ceramic 22uF 25V X7R 20% Pad SMD 1210 +125°C Automotive T/R	1210
10	C23, C26	2	100pF	CGA2B2C0G1H101J050BA	TDK	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402	0402
11	C24, C25, C28, C29	4	0.01uF	CGA2B3X7R1H103K050BB	TDK	CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
12	C31, C32, C33, C34, C38	5	2.2uF	CGA4J3X7R1H225K125AB	TDK	CAP, CERM, 2.2 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	0805
13	C35, C36, C55	3	0.47uF	CGA3E3X7R1H147K080AE	TDK	CAP, CERM, 0.47 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
14	C40, C41, C65, C66	4	22uF	GCM31CR71A226KE02L	MuRata	CAP, CERM, 22 uF, 10 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206
15	C45, C57, C71, C80	4	1uF	GCM21BR71H105KA03K	MuRata	CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	0805
16	C49	1	22pF	CGA2B2N01H220J050BA	TDK	CAP, CERM, 22 pF, 50 V, +/- 5%, C0G/NP0, AEC-Q200 Grade 1, 0402	0402
17	C53, C58, C64, C67, C72, C78, C81	7	0.1uF	GJ188R72A104KA01D	MuRata	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
18	C54	1	0.012uF	C0603C123K5RACTU	Kemet	CAP, CERM, 0.012 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603
19	C59	1	1000pF	GCM155R71H102KA37D	MuRata	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0402	0402
20	C63	1			Würth Elektronik	WV04P-ASLI Aluminum Electrolytic Capacitor, V-Chip, D8 x H6.5mm, 47uF, 50V	
21	D1	1	13V	S2MM3Z13VST1G	ON Semiconductor	Diode, Zener, 13 V, 300 mW, AEC-Q101, SOD-323	SOD-323
22	D2	1	Red	LTST-C190CKT	Lite-On	LED, Red, SMD	Red LED, 1.6x0.8x0.8mm
23	D3	1	24V	SZ1SMA24CAT3G	Littelfuse	Diode, TVS, Bi, 24 V, 38.9 Vc, 400 W, 10.3 A, AEC-Q101, SMA (non-polarized)	SMA (non-polarized)
24	D4, D6, D7, D8, D9, D10, D11, D12, D13	9	60V	PMEG6010CEGWJ	Nexperia	Diode, Schottky, 60 V, 1 A, AEC-Q101, SOD-123	SOD-123
25	D5	1	Green	LTST-C190GKT	Lite-On	LED, Green, SMD	1.6x0.8x0.8mm
26	D15	1	5.6V	S2MM3Z5V6ST1G	ON Semiconductor	Diode, Zener, 5.6 V, 300 mW, AEC-Q101, SOD-323	SOD-323
27	FB1, FB2	2			Würth Elektronik	WE-CBA SMT EMI Suppression Ferrite Bead, size 1206, 600Ohm, 2.5A	
28	J1, J3, J4	3		GRPB051VWCN-RC	Sullins Connector Solutions	Header, 1.27 mm, 5x1, Gold, R/A, TH	Header, 1.27mm, 5x1, RA, TH
29	J2	1		GRPB071VWCN-RC	Sullins		HDR7
30	L1	1	1uH	XGL5030-102MEC	Coilcraft	Shielded Power Inductor, 1uH, 20%, 17.8A IRMS, 5.8mOhm DCR max, AECQ200 Grade1, 5.28x5.48x3.1mm	SMT_IND_5MM28_5MM48
31	L2	1		74431R220	Würth Electronics	2.2uH Shielded Molded Inductor 7.5A 11.3mOhm Max 2-SMD	SMD2
32	L3	1	4.7uH	74439346047	Würth Elektronik	Inductor, Shielded, Hyperflux, 4.7 uH, 7.4 A, 0.0143 ohm, SMD	6.65x6.45mm
33	L6, L7	2	47uH	SRN3015TA-470M	Bourns	Inductor, Shielded, Ferrite, 47 uH, 0.35 A, 1.44 ohm, AEC-Q200 Grade 1, SMD	3.0x3.0x1.5mm
34	LBL1	1		TH1-14-423-10	Brady	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	PCB Label 0.650 x 0.200 Inch
35	R1, R2	2	2.2	ERJ-8RCP2R2V	Panasonic	RES, 2.20, 1%, 0.25 W, AEC-Q200 Grade 0, 1206	1206
36	R3, R20	2	48.9	CRCW0402489R9FKED	Vishay-Dale	RES, 48.9 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
37	R4	1	48.9k	CRCW0402489R9FKED	Vishay-Dale	RES, 48.9 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
38	R6	1	8.06k	CRCW0402806KFKED	Vishay-Dale	RES, 8.06 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
39	R7	1	10.0k	CRCW040210K0FKED	Vishay-Dale	RES, 10.0 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
40	R8	1	102k	CRCW0402102KFKED	Vishay-Dale	RES, 102 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
41	R9	1	9.31k	CRCW04029K31FKED	Vishay-Dale	RES, 9.31 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
42	R10, R13, R24, R27, R33	5	24.9k	CRCW040224K9FKED	Vishay-Dale	RES, 24.9 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
43	R11, R47, R50, R53, R68	5	18.2k	CRCW040218K2FKED	Vishay-Dale	RES, 18.2 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
44	R12	1	11.3k	CRCW040211K3FKED	Vishay-Dale	RES, 11.3 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
45	R14	1	0.47	ERJ-6RFR47V	Panasonic	RES, 0.47, 1%, 0.125 W, AEC-Q200 Grade 0, 0805	0805
46	R15, R18	2	33.2k	CRCW040233K2FKED	Vishay-Dale	RES, 33.2 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
47	R16, R25, R35, R37, R40, R43, R56, R57	8	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
48	R17, R39, R52	3	9.76k	CRCW04029K76FKED	Vishay-Dale	RES, 9.76 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
49	R19, R21	2	100k	CRCW0402100KHEDP	Vishay-Dale	RES, 100 k, 0.5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
50	R23	1	1.21k	CRCW04021K21FKED	Vishay-Dale	RES, 1.21 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
51	R28	1	88.7k	CRCW040288K7FKED	Vishay-Dale	RES, 88.7 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
52	R32	1	4.64k	CRCW04024K64FKED	Vishay-Dale	RES, 4.64 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
53	R34	1	5.36k	CRCW04025K36FKED	Vishay-Dale	RES, 5.36 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
54	R42, R55	2	26.7k	CRCW040226K7FKED	Vishay-Dale	RES, 26.7 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
55	T1, T2	2		750319691	Würth	TRANSFORMER	SMT_TRANSFORMER_9MM45_8MM50
56	U1	1		TPS552872RYQR	Texas Instruments	Automotive, 36-V, 4-Switch, Integrated Buck-boost Converter	VQFN21
57	U2	1		LM61430A430QR-RRQ1	Texas Instruments	3-V to 36-V, Low EMI Synchronous Step-Down Converter	VQFN-HR14
58	U3	1		LM74202QPWPRQ1	Texas Instruments	60V, 2A Integrated Ideal Diode with Over-Voltage & Over-Current protection, PWP0016H (HTSSOP-16)	PWP0016H
59	U4, U6	2		SN6507DGQRO1	Texas Instruments	Low-Noise 36V Push-Pull Transformer Driver with Duty Cycle Control for Isolated Power Supplies	PowerPAD10
60	R5, R22, R26	0	0	CRCW04020000Z0ED	Vishay-Dale	RES, 0, 5%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
61	R36, R49	0	9.76k	CRCW04029K76FKED	Vishay-Dale	RES, 9.76 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
62	R41, R46, R54, R59	0	1.21k	CRCW04021K21FKED	Vishay-Dale	RES, 1.21 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
63	R45, R48	0	49.9k	CRCW040249K9FKED	Vishay-Dale	RES, 49.9 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402
64	U5, U7	0		TL431AQDBZRO1	Texas Instruments	Automotive Catalog Adjustable Precision Shunt Regulator, 34 ppm / degC, 100 mA, -40 to 125 degC, 3-pin SOT-23 (DB2), Green (RoHS & no Sb/Br)	DB20003A