

Soprano EVM PSU

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
IPC81	1		Printed Circuit Board		PMP9185	Any		
C1, C2	2	470uF	CAP ALUM 470UF 25V 20% RADIAL	RCAP, 8x20mm	EEU-FR1E471YB	Panasonic		
C3	1	1uF	CAP, CERM, 1uF, 25V, +/-10%, X5R, 0805	0805	08053D105KAT2A	AVX		
C4	1	0.1uF	CAP, CERM, 0.1uF, 25V, +/-10%, X7R, 0805	0805	08053C104KAT2A	AVX		
C5	1	27uF	CAP ALUM 33UF 400V 20% RADIAL	RCAP, 10x25mm	EKXJ401ELL330MJ35S	UCC		
C6, C26	2	0.1uF	CAP, Film, 0.1uF, 275V, +/-20%, TH	17.5x5.5x12.5mm	ECQ-U2A104ML	Panasonic		
C7	1	10uF	CAP, CERM, 10uF, 25V, +/-10%, X5R, 0805	0805	C2012X5R1E106K125A B	TDK		
C8	1	0.1uF	CAP, CERM, 0.1uF, 25V, +/-5%, X7R, 0603	0603	06033C104JAT2A	AVX		
C9	1	10pF	CAP, CERM, 10pF, 50V, +/-5%, COG/NP0, 0603	0603	06035A100JAT2A	AVX		
C10	1	0.47uF	CAP, CERM, 0.47uF, 16V, +/-5%, X7R, 0805	0805	0805YC474JAT2A	AVX		
C11	1	8200pF	CAP, CERM, 8200pF, 25V, +/-5%, COG/NP0, 0603	0603	C1608C0G1E822J	TDK		
C12, C13, C15, C19	4	10uF	CAP, CERM, 10uF, 10V, +/-10%, X5R, 0805	0805	C0805C106K8PACTU	Kemet		
C14	1	1uF	CAP, CERM, 1uF, 25V, +/-10%, X7R, 1206	1206	12063C105KAT2A	AVX		
C16, C20	2	10uF	CAP, CERM, 10uF, 6.3V, +/-20%, X5R, 0603	0603	C1608X5R0J106M	TDK		
C17	1	0.1uF	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	0603	06035C104KAT2A	AVX		
C18	1	2.2uF	CAP, CERM, 2.2uF, 50V, +/-10%, X5R, 1206	1206	GRM31CR61H225KA88 L	MuRata		
C21	1	2.2uF	CAP, CERM, 2.2uF, 6.3V, +/-10%, X5R, 0603	0603	C0603C225K9PACTU	Kemet		
C22	1	0.1uF	CAP, CERM, 0.1uF, 50V, +/-5%, X7R, 0805	0805	08055C104JAT2A	AVX		
C23	1	0.33uF	CAP CER 0.33UF 25V 20% X5R 0603	0603	C1608X5R1E334M080A C	TDK Corporation		
C24	1	0.47uF	CAP, Film, 0.47uF, 400V, +/-10%, TH	18.5x17x7.8 mm	ECQ-E4474KF	Panasonic		
C25	1	0.01uF	CAP, CERM, 0.01uF, 250V, +/-10%, X7R, 0805	0805	C2012X7R2E103K	TDK		
C27	1	10uF	CAP, CERM, 10uF, 25V, +/-20%, X5R, 1210	1210	C3225X5R1E106K	TDK		
C28	1	0.039uF	CAP, CERM, 0.039uF, 100V, +/-10%, X7R, 0805	0805	GRM21BR72A393KA01 L	MuRata		
D1	1	100V	Diode, Schottky, 100V, 3A, SMC	SMC	B3100-13-F	Diodes Inc.		
D2	1	120V	Diode, TVS, Uni, 120V, 600W, SMB	SMB	SMBJ120A-13-F	Diodes Inc.		
D3	1	1.15V	Diode, Switching-Bridge, 600V, 0.5A, MiniDIP	MiniDIP	RH06-T	Diodes Inc.		
D4	1	1.7V	Diode, Ultrafast, 1000V, 1A, SMA	SMA	US1M-13-F	Diodes Inc.		
D5	1		DIODE SWITCH 200V 200MA SOD323	SOD-323	BAS20HT1G			
D6	1	100V	Diode, Switching, 100V, 0.2A, SOD-123	SOD-123	MMSD4148T1G	ON Semiconductor		
D7	1	5.6V	Diode, Zener, 5.6V, 500mW, SOD-123	SOD-123	MMSZ4690T1G	ON Semiconductor		
D8	1	9.5V	TRANSIL 600V 10V BIDIR SMB	SMB	SM6T10CAY	ST Microelectronics		
F1	1		FUSE FAST 250VAC 2A RADIAL	TR5 fuse 8.5mm DIA	37012000410	Littelfuse		
J1, J2	2		Header, TH, 100mil, 3x1, Gold plated, 230 mil above insulator	3x1 Header	TSW-103-07-G-S	Samtec		
J6	1		Header, TH, 100mil, 8x2, Gold plated, 230 mil above insulator	8x2 Header	TSW-108-07-G-D	Samtec		
J7	1		Terminal Block, 3x1, 6.35 mm, TH	19x21.5x12.5mm	1714968	Phoenix Contact		
J10	1		Connector, DC Jack 2.1X5.5 mm, TH	POWER JACK, 14.4x11x9mm	PJ-102A	CUI Inc.		
L1, L3	2	1mH	INDUCTOR 1000UH .3A 8095 RAD	Dia 8x10mm	744772102	Würth Elektronik eiSos		
L2	1	10mH	CHOKE TOROID 10MH 1.0A VERT	17.5x22x13 mm	744822110	Würth Elektronik eiSos		
L4	1	4.7uH	Inductor, Shielded Drum Core, Ferrite, 4.7uH, 2.9A, 0.033 ohm, SMD	WE-PD-S	7447789004	Würth Elektronik eiSos		
L5	1	2.2uH	Inductor, Shielded Drum Core, Ferrite, 2.2uH, 1.8A, 0.057 ohm, SMD	Inductor, 2.8x2.8x2.8mm	744025002	Würth Elektronik eiSos		
L6	1	3.3uH	Inductor, Shielded Drum Core, Ferrite, 3.3uH, 0.85A, 0.185 ohm, SMD	WE-TPC-T	744028003	Würth Elektronik eiSos		
L7	1	600nH	COIL POWER CHOKE .60UH SMD	Inductor, 12.6x3.3x12.6mm	ETQ-P5LR60XFA	Panasonic		
Q1	1	650V	MOSFET N-CH 650V 7.3A TO252-3	DPAK	IPD65R600E6	Infineon		None
Q2	1		TRANS NPN GP 500MA 45V SOT-23	SOT-23	SBC817-40L1G	ON Semiconductor		
R1, R42	2	499k	RES, 499k ohm, 1%, 0.25W, 1206	1206	CRCW1206499KFKEA	Vishay-Dale		
R3	1	49.9	RES, 49.9 ohm, 1%, 0.25W, 1206	1206	CRCW1206499KFKEA	Vishay-Dale		
R4, R6, R25	3	10.0k	RES, 10.0k ohm, 1%, 0.1W, 0603	0603	CRCW060310K0FKEA	Vishay-Dale		
R5	1	10.0	RES, 10.0 ohm, 1%, 0.125W, 0805	0805	CRCW080510R0FKEA	Vishay-Dale		
R7	1	121k	RES, 121k ohm, 1%, 0.1W, 0603	0603	CRCW0603121KFKEA	Vishay-Dale		
R8, R13	2	1.00	RES, 1.00 ohm, 1%, 0.1W, 0603	0603	CRCW06031R00FKEA	Vishay-Dale		
R9	1	22.1k	RES, 22.1k ohm, 1%, 0.1W, 0603	0603	CRCW060322K1FKEA	Vishay-Dale		
R10	1	118k	RES, 118k ohm, 1%, 0.1W, 0603	0603	CRCW0603118KFKEA	Vishay-Dale		
R11	1	876	RES, 876 ohm, 0.1%, 0.1W, 0603	0603	RT0603BRD07876RL	Yageo America		
R12, R16, R22, R24, R27, R29	6	100k	RES, 100k ohm, 1%, 0.063W, 0402	0402	CRCW0402100KFKEA	Vishay-Dale		
R14, R15, R21, R26	4	10.0k	RES, 10.0k ohm, 1%, 0.063W, 0402	0402	CRCW040210K0FKED	Vishay-Dale		
R17	1	1.30	RES, 1.30 ohm, 1%, 0.125W, 0805	0805	CRCW08051R30FKEA	Vishay-Dale		
R18	1	1.00	RES, 1.00 ohm, 1%, 0.125W, 0805	0805	CRCW08051R00FKEA	Vishay-Dale		
R19	1	21.5k	RES, 21.5k ohm, 1%, 0.1W, 0603	0603	CRCW060321K5FKEA	Vishay-Dale		
R20	1	DNP	RES, 0 ohm, 5%, 0.063W, 0402	0402	CRCW0402000Z0EAD	Vishay-Dale		
R23	1	453k	RES, 453k ohm, 1%, 0.063W, 0402	0402	CRCW0402453KFKEA	Vishay-Dale		
R28	1	80.6k	RES, 80.6k ohm, 1%, 0.063W, 0402	0402	CRCW040280K6FKED	Vishay-Dale		
R30, R32	2	33.2k	RES, 33.2k ohm, 1%, 0.063W, 0402	0402	CRCW040233K2FKED	Vishay-Dale		
R31	1	1.0Meg	RES, 1.0Meg ohm, 5%, 0.25W, 1206	1206	CRCW12061M00JNEA	Vishay-Dale		
R33	1	270	RES, 270 ohm, 5%, 0.1W, 0603	0603	CRCW0603270RJNEA	Vishay-Dale		
R34, R35, R36	3	100k	RES, 100k ohm, 1%, 0.1W, 0603	0603	RC0603FR-07100KL	Yageo America		
R37	1	240k	RES, 240k ohm, 5%, 0.1W, 0603	0603	CRCW0603240KJNEA	Vishay-Dale		
R38	1	0	RES, 0 ohm, 5%, 0.1W, 0603	0603	CRCW0603000Z0EAD	Vishay-Dale		
R39	1	1.5k	RES, 1.5k ohm, 5%, 0.125W, 0805	0805	CRCW08051K50JNEA	Vishay-Dale		
R40	1	4.7	RES, 4.7 ohm, 5%, 0.125W, 0805	0805	RC0805JR-074R7L	Yageo America		
R41	1	0	RES, 0 ohm, 5%, 0.25W, 1206	1206	CRCW1206000Z0EAD	Vishay-Dale		
T1	1	250uH	Transformer, Flyback, 250uH, TH	870x940x650mil	RLTI-1106	Renco Electronics		
T2	1	870uH	Transformer, 870uH, TH	19.77x10.16x13.72mm	750510476	Würth Elektronik eiSos		
U1	1		4.5V to 23V Input, 2-A Synchronous Step-Down SWIFT Converter, DDA0008E	DDA0008E	TPS54229DDA	Texas Instruments		None
U2	1		Constant-Voltage, Constant-Current Controller With Primary-Side Regulation, D0007A	D0007A	UCC28710D	Texas Instruments		None
U3	1		Power Management IC for Li-Ion Powered Systems, RHB0032E	RHB0032E	TPS650250RHB	Texas Instruments		None
U4	1		OPTOCOUPLER TRANS 5KVRMS 4SMD	DIP-4L Gullwing	FOD817DS	Fairchild Semiconductor		
XF1	1	TR5	Fuse Holder, TR5, TH	TR5 Fuse Holder	5600001009	Littelfuse		
R2	0	2.00k	RES, 2.00k ohm, 1%, 0.25W, 1206	1206	CRCW12062K00FKEA	Vishay-Dale		

Notes:

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