

**BILL OF MATERIALS**

**PROJECT NAME: EVLSPIN32G0A2 Revision 1**

**30 May 2024**



Item	Quantity	Reference	Description	Part / Value	Voltage	Power	Tolerance	Package	If this field is shown is mandatory to use this type		Additional Notes
									Manufacturer	Manufacturer's ordering code / Orderable Part Number	
1	5	C1,C11,C13,C14,C15	SMT ceramic capacitor	100nF	10V			Size 0603	WURTH ELEKTRONIK	885012206020 or equivalent	
2	1	C2	SMT ceramic capacitor	4700nF	10V			Size 0603	WURTH ELEKTRONIK	885012106012	
3	1	C3	SMT ceramic capacitor	10nF	10V			Size 0603			
4	1	C4	SMT ceramic capacitor	47uF	10V			Size 1210	WURTH ELEKTRONIK	885012109007	
5	3	C5,C6,C10	SMT ceramic capacitor	1000nF	25V		10%	Size 0603	WURTH ELEKTRONIK	885012206076 or equivalent	
6	1	C7	SMT ceramic capacitor	10uF	25V			Size 1206	WURTH ELEKTRONIK	885012208069	
7	1	C8	SMT ceramic capacitor	100nF	25V			Size 0603			
8	4	C9,C18,C19,C20	SMT ceramic capacitor	220nF	100V			Size 1206			
9	2	C12,C29	SMT ceramic capacitor	4.7nF	6.3V			Size 0603			
10	2	C16,C17	Aluminum Electrolytic capacitor SMD	220uF	63V		20%	Diam. 12.5 mm - 13x13 mm	WURTH ELEKTRONIK	865080762015/865060762009	
11	3	C21,C48,C50	SMT ceramic capacitor	NM	6.3V			Size 0603			Not mounted
12	3	C26,C49,C51	SMT ceramic capacitor	470pF	50V			Size 0603	WURTH ELEKTRONIK	885012006061 or equivalent	
13	1	C28	SMT ceramic capacitor	1nF	6.3V			Size 0603			
14	1	C30	SMT ceramic capacitor	10nF	6.3V			Size 0603			
15	1	C31	SMT ceramic capacitor	1uF	25V			Size 0603	WURTH ELEKTRONIK	885012206076 or equivalent	
16	3	C32,C33,C34	SMT ceramic capacitor	1.5nF	50V			Size 0603	WURTH ELEKTRONIK	885012206084 or equivalent	
17	8	C35,C36,C38,C43,C44,C45,C46,C47	SMT ceramic capacitor	100nF	6.3V		10%	Size 0603			
18	2	C37,C39	SMT ceramic capacitor	1uF	6.3V		10%	Size 0603	WURTH ELEKTRONIK	885012206076	
19	1	C40	SMT ceramic capacitor	10nF	6.3V		10%	Size 0603			
20	2	C41,C42	SMT ceramic capacitor	100pF	6.3V		10%	Size 0603			
21	1	D1	Schottky Rectifier	STPS0560Z				SOD-123	STMicroelectronics	STPS0560Z	
22	6	D2,D3,D4,D5,D6,D7	Small Signal Fast Switching Diode	1N4148WS				SOD-323F	VISHAY	1N4148WS-E3-08 / -E3-18 or equivalent	
23	3	D11,D12,D13	40V, 300mA Small signal Schottky Diode	BAT54J	40 V			SOD-323	STMicroelectronics	BAT54JFILM or equivalent	
24	1	D14	35 A - 8/20 us, 22 V TVS in QFN-2L	ESDA25P35-1U1M				QFN-2L	STMicroelectronics	ESDA25P35-1U1M	
25	3	JP2,JP3,JP4	Strip connector 2 pos, 2.54 mm	STRIP 1x2				1x2 pins	WURTH ELEKTRONIK	61300211121 or equivalent	
26	1	JUMPER2	Jumper, 2.54 mm	Jumper					WURTH ELEKTRONIK	60900213421 or equivalent	
27	2	J1,J8	Strip connector 2 pos, 2.54 mm	STRIP 1x2				1x2 pins, 2.54mm		NM	Not mounted
28	1	J2	Strip connector 3 pos, 2.54 mm	STRIP 1x3				1x3 pins	WURTH ELEKTRONIK	61300311121 or equivalent	
29	1	J3	Horizontal Entry Modular w. Rising Cage Clamp, Serie 2135 - 5.08 mm	MORSV-508-2P_screw				Pitch 5.08 mm	WURTH ELEKTRONIK	691213510002 or equivalent	
30	1	J4	Horizontal Entry Modular w. Rising Cage Clamp, Serie 2135 - 5.08 mm	MORSV-508-3P_screw				Pitch 5.08 mm	WURTH ELEKTRONIK	691213510003 or equivalent	
31	1	J5	Strip connector 5 pos, 2.54 mm	STRIP 1x5				1x5 pins	WURTH ELEKTRONIK	61300511121 or equivalent	
32	1	J6	WR-COM USB 2.0 Type C Receptacle Horizontal SMT,Receptacle,16pins,20vdc	USB 2.0 Type C					WURTH ELEKTRONIK	629722000214	
33	1	J7	Strip connector 2x5, pitch 1.27 mm	STRIP 2x5					WURTH ELEKTRONIK	62201021121 or FTSH-105-01-F-D-K	
34	2	LED1,LED2	WL-SMCW SMT Mono-color Chip LED Waterclear	YELLOW				Size 0603	WURTH ELEKTRONIK	150060YS75000 or Equivalent	
35	1	LED3	WL-SMCW SMT Mono-color Chip LED Waterclear	RED				Size 0805	WURTH ELEKTRONIK	150080RS75000 or equivalent	
36	1	LED4	LED indicators, PLCC-4 Red/Yellow Green	RED-GREEN LED				PLCC 4	AVAGO	HSMF-A201-A00J1 or equivalent	
37	1	L1	WE-MAPI SMT Power Inductor 22uH 0.6 A	22uH			20%	3015	WURTH ELEKTRONIK	74438335220 or equivalent	
38	1	NTC1	NTC Thermistor	10k		100mW	+/- 1%	Size 0603	muRata	NCP18XH103F03RB	
39	6	Q1,Q2,Q3,Q4,Q5,Q6	N-channel 60 V, 0.0031 Ohm typ., 80 A STripFET F7 Power MOSFET	STD140N6F7				DPAK	STMicroelectronics	STD140N6F7	
40	1	Q7	NPN General Purposes Transistor	BC847B				SOT23	Nexperia	BC847B or equivalent	
41	1	R1	SMT resistor	10k		0.1W		Size 0603			
42	2	R2,R3	SMT resistor	120R		0.1W		Size 0603			
43	2	R4,R5	SMT resistor	200R		0.1W		Size 0603			
44	3	R6,R7,R8	SMT resistor	4.7k		0.125W	5%	Size 0805			
45	6	R9,R10,R11,R15,R16,R17	SMT resistor	0R		0.0625W (1/16)		Size 0603			
46	6	R12,R13,R14,R18,R19,R20	SMT resistor	120R		0.0625W (1/16)		Size 0603			
47	6	R21,R22,R68,R69,R70,R71	SMT resistor	0.02R		2W	1%	Size 2512	TE CONNECTIVITY	TLRP3A20DR020FTE	

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48	3	R26,R72,R78	SMT resistor	7.5k		0.0625W (1/16)	1%	Size 0603			
49	6	R30,R34,R74,R77,R80,R83	SMT resistor	15k		0.0625W (1/16)	1%	Size 0603			
50	6	R31,R33,R73,R76,R79,R82	SMT resistor	1k		0.0625W (1/16)	1%	Size 0603			
51	3	R32,R75,R81	SMT resistor	220R		0.0625W (1/16)	1%	Size 0603			
52	4	R36,R37,R38,R55	SMT resistor	4.7k		0.1W	5%	Size 0603			
53	1	R39	SMT resistor	169k		0.0625W (1/16)	1%	Size 0603			
54	1	R40	SMT resistor	18k		0.0625W (1/16)	1%	Size 0603			
55	3	R41,R42,R44	SMT resistor	330R		0.1W	5%	Size 0603			
56	3	R43,R84,R85	SMT resistor	3k		0.0625W (1/16)	1%	Size 0603			
57	1	R45	SMT resistor	9.31k		0.0625W (1/16)	1%	Size 0603			
58	1	R46	SMT resistor	910R		0.0625W (1/16)	1%	Size 0603			
59	2	R47,R57	SMT resistor	10k		0.1W	5%	Size 0603			
60	4	R48,R56,R61,R62	SMT resistor	100R		0.1W	5%	Size 0603			
61	1	R49	SMT resistor	36k		0.1W	5%	Size 0603			
62	1	R50	SMT resistor	1.5k		0.1W	5%	Size 0603			
63	2	R52,R54	SMT resistor	4.7k		0.1W	1%	Size 0603			
64	1	R53	SMT resistor	2.7k		0.1W	5%	Size 0603			
65	1	R58	SMT resistor	NM		0.1W	5%	Size 0603			Not mounted
66	2	R59,R60	SMT resistor	100k		0.1W	5%	Size 0603			
67	2	R63,R64	SMT resistor	5.1k		0.1W	5%	Size 0603			
68	3	R65,R66,R67	SMT resistor	20k		0.1W	5%	Size 0603			
69	1	SB1	SMT resistor	NM				Size 0603			Not mounted
70	6	SB2,SB5,SB6,SB7,SB8,SB9	SMT resistor	0R				Size 0603			
71	3	SW1,SW2,SW3	Tactile Switch - 6x6 J-bend SMT	WS-TASV J-Bend SMT					WURTH ELEKTRONIK	430483025816 or equivalent	
72	12	TP1,TP2,TP3,TP9,TP12,TP13,TP14,TP15,TP16,TP17,TP18,TP19	50 mils SMD PAD	TP-SMD-diam1_27mm				Copper pad			
73	5	TP4,TP5,TP6,TP7,TP8	65x128 mils SMD Hardware Test Points	TP-SMD-S1751-46R				SMD 65x128 Pad	HARWIN	S1751-46R or Equivalent	
74	1	TR1	3362 -1/4 ? Square Trimptot Trimming Potentiometer	100k		0.5W (1/2)	+/- 10%	3362P	Bourns	3362P-1-104 LF	
75	1	U3	Ultra low drop and low noise BiCMOS voltage regulators	LD3985M33R				SOT23-5L	STMicroelectronics	LD3985M33R or Equivalent	
76	1	U4	Common-mode filter and ESD protection for USB 2.0 and MIPI/MDDI interfaces	ECMF02-2AMX6				QFN-6L	STMicroelectronics	ECMF02-2AMX6	
77	1	U5	Medium-density performance line ARM® based 32-bit MCU with 128 KB Flash, USB, CAN, 7 timers, 2 ADCs, 9 com. interfaces	STM32F103CBT6				LQFP48 - 7x7 mm	STMicroelectronics	STM32F103CBT6	
78	1	U6	STSPIN32G0A2 Three-phase controller with MCU	STSPIN32G0A2				VFQFPN 7 x 7 x 1.0-48L	STMicroelectronics	STSPIN32G0A2	
79	1	X1	CRYSTAL 8.0000MHZ 8pF SMD	NX3225CD-CRYSTAL				NDK NX3225GD	NDK	NX3225GD-8MHZ-EXS00A-CG04874 or equivalent	