



EVSPIN32G06Q2S1 - Bill of materials

Reference	Part Value	Description	Package	Manufacturer	Part Number
C1,C19,C23,C30,C34,C35,C41,C43,C47,C56,C57	100nF/25V	SMT Ceramic Capacitor	Size 0603		
C2,C58	1uF/25V	SMT Ceramic Capacitor	Size 0603		
C3,C12,C26	1uF/50V	SMT Ceramic Capacitor	Size 0805		
C4,C5,C7,C13,C14,C17,C25,C27,C28,C33,C40,C59	N.M.	SMT Ceramic Capacitor	Size 0603		
C6,C15,C29	4.7pF/50V	SMT Ceramic Capacitor	Size 0603		
C8	N.M.	Film, Metallized Polypropylene	4x13 mm, Pitch 10 mm	KEMET	R71MF31004030K or equivalent
C9	33nF/630V	SMT Ceramic Capacitor	Size 1210		
C10,C11,C37,C38,C39	10pF/10V	SMT Ceramic Capacitor	Size 0603		
C16	4.7nF/25V	SMT Ceramic Capacitor	Size 0603		
C18,C54	47nF/25V	SMT Ceramic Capacitor	Size 0603		
C20	4.7uF/25V	SMT Ceramic Capacitor	Size 0603		
C22,C36,C42	1nF/25V	SMT Ceramic Capacitor	Size 0603		
C24,C31	4.7uF/10V	SMT Ceramic Capacitor	Size 0805		
C32	470pF/25V	SMT Ceramic Capacitor	Size 0603		
C44	150uF/420V	THT Electrolytic Capacitor, Radial p10 d22h27 105C	Radial p10 d22h27.5 mm	United Chemi-Con	EKMZ421VSN151MP25S or equivalent
C44A	N.M.	THT Electrolytic Capacitor, Radial p7.5 d18h25	Radial p7.5 d18h25 mm	Rubycon	450BXW68MEFC18X25 or equivalent
C45	22uF/25V	SMD Aluminum Elect. Capacitor	5x5.4 mm	Panasonic	EEE1EA220WR or equivalent
C46	470uF/10V	SMD Aluminum Elect. Capacitor	6.3x7.7 mm	Panasonic	EEETTA471XAP or equivalent
C48	10uF/10V	SMT Ceramic Capacitor	Size 1206		
C49	47uF/25V	SMD Aluminum Elect. Capacitor	6.3x5.8 mm	nichicon	UCD1E470MCL1GS or equivalent
C50	10uF/35V	SMD Aluminum Elect. Capacitor	5x5.4 mm	Panasonic	EEE1VA100SR or equivalent
C51	820pF/25V	SMT Ceramic Capacitor	Size 0603		
C52	680nF/10V	SMT Ceramic Capacitor	Size 0603		
C53	220pF/630V	SMT Ceramic Capacitor	Size 1206	Multicomp	MC1206N221J631CT or equivalent
C55	4.7uF/50V	SMT Ceramic Capacitor	Size 1206		
D1,D6,D11	N.M.	Turbo 2 Ultrafast High-Voltage Rectifier	SMA	STMicroelectronics	STTH1L06A or equivalent
D2,D4,D5,D7,D9,D10,D12,D13,D15,D16,D17,D18,D19,D24	BAT54J	40V, 300mA Small signal Schottky SMT Diode	SOD-323	STMicroelectronics	BAT54JFILM or equivalent
D3,D8,D14,D25	STTH1L06A	Turbo 2 Ultrafast High-Voltage Rectifier	SMA	STMicroelectronics	STTH1L06A or equivalent
D20	GBU805	8A Glass Passivated Single-Phase Bridge Rectifier	GBU	Taiwan Semiconductor	GBU805 or equivalent
D21	N.M.	ZENER 3V3	SOD-123		
D22	STPS0560Z	60V, 0.5A Schottky rectifier	SOD-123	STMicroelectronics	STPS0560Z or equivalent
D23	STPS1150A	150V, 1A Power Schottky rectifier	SMA	STMicroelectronics	STPS1150A or equivalent
D26	DDZ9690T	SURFACE MOUNT ZENER DIODE	SOD523	DIODES Incorporated	DDZ9690T-7 or equivalent
F1A	N.M.	Time Lag radial lead Micro Fuse, 250Vac	RST-BELFUSE	belfuse	0697-xx or equivalent
F1	5A/277V slow	Surface Mount Fuse, Time-Lag T, 250Vac125Vdc	UMT250-SHURTER	Schurter	3403.0173.24 or equivalent
JP1,JP7	OPEN	SMT Jumper	Soldering pad		
JP2,JP3,JP4	CLOSED 1-2	SMT Jumper	Soldering pad		
JP5	CLOSED	SMT Jumper	Soldering pad		
JP6	CLOSED 1-2	Strip connector 3 pos, 2.54 mm	1x3 pins	Amphenol FCI	68000-403HLF or equivalent
JP8	CLOSED 2-4	SMT Jumper	Soldering pad		
JP9	Jumper a Goccia	SMT Jumper	Soldering pads		
J1,J6,J7	STRIP 1x4	Strip connector 4 pos, 2.54 mm	1x4 pins	Amphenol FCI	68000-404HLF or equivalent
J2,J8	STRIP 1x5	Strip connector 5 pos, 2.54 mm	1x5 pins	WURTH ELEKTRONIK	61300511121 or equivalent
J3	STRIP 1x5	Strip connector 5 pos, 2.54 mm	1x5 pins	Amphenol FCI	68000-405HLF or equivalent
J4	MORSV-508-2P_screw	Connector terminal block T.H. 2 positions 5.08 mm	2 poles, Pitch 5.08	Phoenix Contact	1715721 or equivalent

J5	SAMTEC FTSH-107-01-L-DV-K-A	SMT Micro Header pitch 1.27 mm		SAMTEC	
J9	STRIP 2x5	Strip connector 2x5, pitch 2.54 mm	2x5 pins	WURTH ELEKTRONIK	61301021121 or equivalent
J10	MORSV-508-3P_screw	Connector terminal block T.H. 3 positions 5.08 mm	3 poles, Pitch 5.08	Phoenix Contact	1715857 or equivalent
LD1,LD2	YELLOW	Yellow LED	Size 0603	WURTH ELEKTRONIK	150060YS75000 or equivalent
LD3	RED	Red LED	Size 0603	WURTH ELEKTRONIK	150060RS75000 or equivalent
LD4	GREEN	Green Led	Size 0805		
NTC1	2R2	NTC Thermistor for Inrush current limiting		TDK	B57236S0229M000 or equivalent
Net1,Net2	N.M.				
Q1,Q3,Q4,Q6,Q7,Q9	STGB20M65DF2	Trench gate field-stop, 650 V, 20 A, M series low-loss IGBT	D ² PAK (TO-263)	STMicroelectronics	STGB20M65DF2 or equivalent
Q1A,Q3A,Q4A,Q6A,Q7A,Q9A	N.M.	N-channel 600 V, 0.195 Ohm typ., 15 A MDmesh DM2 Power MOSFET	PowerFLAT 8x8	STMicroelectronics	STL24N60DM2
Q2,Q5,Q8	BC817-25	45V NPN SMALL SIGNAL TRANSISTOR	SOT23		BC817-25 or equivalent
Q10	2SCR642P HZG	Transistor bipolari - BJT 30V 10A	SOT-89	ROHM	2SCR642PHZGT100 or equivalent
RV1	N.M.	Varistor	Pitch 2.3x7.5 mm		
R1,R15,R35	27R	SMT resistor	Size 0805		
R2,R10,R16,R27,R40,R49	4R7	SMT Resistor	Size 0805		
R3,R13,R18,R30,R42,R56	22R	SMT Resistor	Size 0805		
R4,R17,R43,R61	1M	SMT Resistor	Size 0603		
R5,R14,R19,R31,R44,R57,R101	100k	SMT Resistor	Size 0603		
R6,R7,R20,R21,R45,R46	180k	SMT Resistor	Size 1206		
R8,R22,R47	0R	SMT Resistor	Size 0805		
R9,R24,R50,R80	1k	SMT Resistor	Size 0805		
R11,R25,R51	2.7k	SMT Resistor	Size 0603		
R12,R28,R52,R53,R63,R64,R65,R89	10k	SMT Resistor	Size 0603		
R23	100k	3362 -1/4 " Square Trimpot Trimming Potentiometer	3362P	Bourns	3362P-1-104 LF or equivalent
R26,R29,R58,R59,R73,R94,R95,R102	0R	SMT Resistor	Size 0603		
R32	47k	SMT Resistor	Size 0603		
R33	63.4k	SMT Resistor	Size 0603		
R34	50 mOhm-3W-1%	Power Metal Plate Current Sense Resistors, Low Value (10 mohm to 500 mohm), Surface-Mount, High Power	Size 2512	VISHAY	WFMB2512R0500FEA or equivalent
R38	1k	SMT Resistor	Size 0603		
R39,R74,R75,R76,R91,R100	N.M.	SMT Resistor	Size 0603		
R41,R55	2.2k	SMT Resistor	Size 0603		
R48	39k	SMT Resistor	Size 0603		
R54,R66,R79	100R	SMT Resistor	Size 0603		
R60,R93	33k	SMT Resistor	Size 0603		
R62,R77	120R	SMT Resistor	Size 0603		
R67,R69	470k	SMT Resistor	Size 1206		
R68,R70,R71	1.8k	SMT Resistor	Size 0603		
R72	N.M.	NTC Resistor	Hole 0.8 mm		
R78	6.49k	SMT Resistor	Size 0805		
R81	4.7k	SMT Resistor	Size 0603		
R82	330R	SMT Resistor	Size 0603		
R83	0R	SMT Resistor	Size 1206		
R84	36k	SMT Resistor	Size 0603		
R85	10R	SMT Resistor	Size 0603		
R86,R87	22k	SMT Resistor	Size 0603		
R88	1.5k	SMT Resistor	Size 1206		
R90	220K 1/3W	SMT Resistor	Size 0805	TE Connectivity	CRGH0805J220K or equivalent
R92	8.2k	SMT resistor	Size 0603		
R96,R97,R98,R99	0R	SMT Resistor	Size 0603		
SW1,SW2,SW3	4.30E+11	CMS TACTILE SWITCHES - 6x6 J-bend		WURTH ELECTRONIK	430483025816 or equivalent
TP1,TP2,TP3,TP4,TP5,TP6,TP7,TP8,TP12,TP14,TP15,TP16,TP17,TP18,TP19,TP20,TP21,TP22,TP23	N.M.	TP for Probe	Diam. 1.27, Hole 0.8mm		
TP10,TP13	TPH-ANELLO-1MM	THT Ring Test Point		Keystone	5003 or equivalent

T1	7.50E+08	Switch mode Transformer 2.3W 60kHz 3.15mH 7-15V		WURTH ELECTRONIK or MAGNETICA	750318434 or 1921.0059
U1	STSPIN32G0602Q	600 V three-phase controller with MCU	QFN 10x10 72L pitch 0.5	STMicroelectronics	STSPIN32G0602Q/TR
U2	TSV991ILT	Rail-to-Rail input/output 20 MHz GBP operational amplifiers	SOT23-5	STMicroelectronics	TSV991ILT/ AILT or equivalent
U3	TS3021ILT	Rail-to-rail 1.8 V high-speed comparator	SOT23-5	STMicroelectronics	TS3021ILT or equivalent
U4	VIPER06XS	Fixed-frequency VIPer plus family	SSO10	STMicroelectronics	VIPER06XS
U5	LD1117S33CTR	800mA, 3.3V Adjustable and Fixed low drop positive voltage regulator	SOT-223	STMicroelectronics	LD1117S33CTR or equivalent
XT1	ABM8AIG-8.000MHZ-8	Automotive & Industrial Grade Ceramic Base SMD Crystal		ABRACON	ABM8AIG-8.000MHZ-8-V1R-T or equivalent
		P.C.B. EVSPIN32G06Q2S1 R1		STMicroelectronics	