



EVSPIN32F06Q1S1 - Bill of materials

Reference	Part Value	Description	Package	Manufacturer	Part Number
C1,C19,C20,C21,C23,C30,C35,C41,C43,C47,C53,C55,C56,C62,C63,C64,C65,C69	100nF/25V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012206071 or Equivalent
C2	220nF/25V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012206073 or Equivalent
C3,C12,C26	1uF/50V	SMT Ceramic Capacitor	Size 0805	WURTH ELEKTRONIK	885012207103 or Equivalent
C4,C5,C7,C13,C14,C17,C25,C28,C32,C33,C40	N.M.	SMT Ceramic Capacitor	Size 0603		
C6,C15,C29	4.7pF/50V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012006049 or Equivalent
C8	N.M.	Film, Metallized Polypropylene	4x13 mm, Pitch 10 mm	KEMET	R71MF31004030K or Equivalent
C9	33nF/630V	SMT Ceramic Capacitor	Size 1210	WURTH ELEKTRONIK	885342209004 or Equivalent
C10,C11,C59,C60	10pF/50V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012006051 or Equivalent
C16	4.7nF/25V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012206063 or Equivalent
C18,C67	47nF/25V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012206069 or Equivalent
C22,C36,C42	1nF/25V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012206059 or Equivalent
C24,C31	4.7uF/10V	SMT Ceramic Capacitor	Size 0805	WURTH ELEKTRONIK	885012207025 or Equivalent
C27	33pF/25V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012006035 or Equivalent
C34	3.3NF/25V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012206062 or Equivalent
C37,C38,C39	10pF/10V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012006002 or Equivalent
C44A	N.M.	THT Electrolytic Capacitor, Radial p7.5 d18h25	Radial p7.5 d18h25 mm	Rubycon	450BXW68MEFC18x25 or Equivalent
C44	150uF/420V	THT Electrolytic Capacitor, Radial p10 d22h27 105C	Radial p10 d22h27.5 mm	United Chemi-Con	EKMZ421VSN151MP25S or Equivalent
C45	22uF/25V	SMD Aluminum Elect. Capacitor	5x5.4 mm	WURTH ELEKTRONIK	865090442004 or Equivalent
C46	470uF/10V	SMD Aluminum Elect. Capacitor	6.3x7.7 mm	Panasonic	EEETFA471XAP or Equivalent
C48	10uF/10V	SMT Ceramic Capacitor	Size 1206	WURTH ELEKTRONIK	885012208018 or Equivalent
C49	47uF/25V	SMD Aluminum Elect. Capacitor	6.3x5.8 mm	WURTH ELEKTRONIK	865060443004 or Equivalent
C50	10uF/35V	SMD Aluminum Elect. Capacitor	5x5.4 mm	WURTH ELEKTRONIK	865230542002 or Equivalent
C51	820pF/25V	SMT Ceramic Capacitor	Size 0603		
C52	680nF/10V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012206025 or Equivalent
C54,C58	1uF/10V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012206026 or Equivalent
C57	10nF/25V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012206065 or Equivalent
C61	100nF/50V	SMT Ceramic Capacitor	Size 0603	WURTH ELEKTRONIK	885012206095 or Equivalent
C66	220pF/630V	SMT Ceramic Capacitor	Size 1206	Multicomp	MC1206N221J631CT or Equivalent
C68	4.7uF/50V	SMT Ceramic Capacitor	Size 1206	WURTH ELEKTRONIK	885012208094 or Equivalent
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	BAT54J/FILM 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 or Diodes Incorporated	GBU805 or GBU806
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	10A/277V slow	Suface Mount Fuse, Time-Lag T, 250Vac125Vdc	UMT250-SHURTER	Schurter	3403.0176.24 or Equivalent
JP1	CLOSED 2-3	SMT Jumper	Soldering pad		
JP2,JP10	OPEN	SMT Jumper	Soldering pad		
JP3,JP4,JP5	CLOSED 1-2	SMT Jumper	Soldering pad		
JP6	CLOSED	SMT Jumper	Soldering pad		
JP7,JP8	CLOSED 1-2	Strip connector 3 pos, 2.54 mm	1x3 pins	WURTH ELEKTRONIK	61300311121 or Equivalent
JP9	OPEN	SMT Jumper	Soldering pad		
JP11	CLOSED 2-4	SMT Jumper	Soldering pad		
J1,J7,J9	STRIP 1x4	Strip connector 4 pos, 2.54 mm	1x4 pins	WURTH ELEKTRONIK	61300411121 or Equivalent
J2	MORSV-508-3P_screw	Connector terminal block T.H. 3 positions 5.08 mm	3 poles, Pitch 5.08	WURTH ELEKTRONIK	691213510003 or Equivalent
J3	STRIP 1x5	Strip connector 5 pos, 2.54 mm	1x5 pins	WURTH ELEKTRONIK	61300511121 or Equivalent
J4	MORSV-508-2P_screw	Connector terminal block T.H. 2 positions 5.08 mm	2 poles, Pitch 5.08	WURTH ELEKTRONIK	691213510002 or Equivalent
J5	65100516121	MINI USB 2.0 TYPE B SMD	USB MINI B	WURTH ELEKTRONIK	65100516121 or Equivalent
J6	STRIP 1x2	Strip connector 2 pos, 2.54 mm	1x2 pins	WURTH ELEKTRONIK	61300211121 or Equivalent
J8	CLOSED	Strip connector 2 pos, 2.54 mm	1x2 pins	WURTH ELEKTRONIK	61300211121 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	WURTH ELEKTRONIK	150080GS75000 or Equivalent
LD5	RED-GREEN	LED indicators, PLCC-4 Red / Yellow Green	PLCC 4	AVAGO	HSMF-A201-A00J1 or equivalent
NTC1	2R2	NTC Thermistor for Inrush current limiting		TDK	B57236S0229M000 or equivalent
Net1,Net2	N.M.				
Q1,Q3,Q4,Q6,Q7,Q9	STGD6M65DF2	Trench gate field-stop IGBT, M series 650V, 6A low loss	DPAK	STMicroelectronics	STGD6M65DF2 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 or Equivalent
Q2,Q5,Q8	BC817-25	45V NPN SMALL SIGNAL TRANSISTOR	SOT23		BC817-25 or Equivalent
Q10	BC847B	GENERAL PURPOSE 45V 100mA 225mW	SOT23	ON SEMICONDUCTOR	BC847BL or Equivalent
Q11	3STF1640	Low voltage high performance NPN power transistor	SOT-89	STMicroelectronics	3STF1640 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	10R	SMT Resistor	Size 0805		
R3,R13,R18,R30,R42,R56	100R	SMT Resistor	Size 0805		
R4,R17,R43	1M	SMT Resistor	Size 0603		
R5,R14,R19,R31,R44,R57,R105,R106	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,R96	2.7k	SMT Resistor	Size 0603		
R12,R28,R52,R53,R63,R64,R65,R89,R90,R103	10k	SMT Resistor	Size 0603		
R23	100k	Square trimpot trimming potentiometer	3386P	BOURNS	3386P-1-104-LF or equivalent
R26,R29,R58,R59,R73,R95,R97,R99,R101	0R	SMT Resistor	Size 0603		
R32	47k	SMT Resistor	Size 0603		
R33	63.4k	SMT Resistor	Size 0603		
R34,R36	0R15-2W-1%	SMT Resistor	Size 2512		
R38	1k	SMT Resistor	Size 0603		
R39,R74,R75,R76,R104,R111	N.M.	SMT Resistor	Size 0603		
R41,R55	3k	SMT Resistor	Size 0603		
R48	39k	SMT Resistor	Size 0603		
R54,R66,R79,R91,R102,R107,R108	100R	SMT Resistor	Size 0603		
R60,R113	33k	SMT Resistor	Size 0603		
R61	10M	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		
R81,R94,R98,R100	4.7k	SMT Resistor	Size 0603		
R78	6.49k	SMT Resistor	Size 0805		
R82	330R	SMT Resistor	Size 0603		
R83	0R	SMT Resistor	Size 1206		
R84,R93	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		
R92	1.5k	SMT Resistor	Size 0603		
R109	0R	SMT Resistor	Size 0603		
R110	220K 1/3W	SMT Resistor	Size 0805	TE Connectivity	CRGH0805J220K or Equivalent
R112	8k2	SMT resistor	Size 0603		
SW1,SW2,SW3	430483025816	CMS TACTILE SWITCHES - 6x6 J-bend		WURTH ELECTRONIK	430483025816 or Equivalent
TP1	N.M. (TPHIN1)	Test Point PCB 1mm DIAMETER	Copper Pad		TPSMD-1mm
TP2	N.M. (TPHIN2)	Test Point PCB 1mm DIAMETER	Copper Pad		TPSMD-1mm
TP3	N.M. (TPHIN3)	Test Point PCB 1mm DIAMETER	Copper Pad		TPSMD-1mm
TP4,TP6,TP7,TP11,TP14,TP17,TP18,TP19,TP20,TP21,TP22,TP23,TP24,TP25	N.M.	TP for Probe	Diam. 1.27, Hole 0.8mm		
TP5	N.M. (ZCR)	Test Point PCB 1mm DIAMETER	Copper Pad		TPSMD-1mm
TP8,TP12	TPTH-ANELLO-1mm	THT Ring Test Point		Keystone	5003 or Equivalent
TP10	N.M. (SPEED)	Test Point PCB 1mm DIAMETER	Copper Pad		TPSMD-1mm
TP13,TP16	N.M. (CIN, PGND)	Test Point PCB 1mm DIAMETER	Copper Pad		TPSMD-1mm
TP15	NEEDLE-PAD-1.7mm	Test Point PCB 1.7mm DIAMETER	Copper Pad		NEEDLE-PAD-1.7mm
T1	750318434	Switch mode Transformer 2.3W 60kHz 3.15mH 7-15V		WURTH ELECTRONIK or MAGNETICA	750318434 or 1921.0059

U1	STSPIN32F0601Q	600V three-phase controller with ARM Cortex MCU	QFN72-10X10	STMicroelectronics	STSPIN32F0601Q/TR
U2	TSV9111ILT	Single Rail-to-Rail input/output 8 MHz operational amplifiers	SOT23-5	STMicroelectronics	TSV9111ILT or Equivalent
U3	TS3021ILT	Rail-to-rail 1.8 V high-speed comparator	SOT23-5	STMicroelectronics	TS3021ILT or Equivalent
U4	LD1117S33CTR	800mA, 3.3V Adjustable and Fixed low drop positive voltage regulator	SOT-223	STMicroelectronics	LD1117S33CTR or Equivalent
U5	VIPER06XS	Fixed-frequency VIPer plus family	SSO10	STMicroelectronics	VIPER06XS or Equivalent
U6	USBLC6-2SC6	Very low capacitance ESD protection	SOT23-6L	STMicroelectronics	USBLC6-2SC6 or Equivalent
U7	LD3985M33R	3.3V_150mA_ULTRA LOW DROP VOLTAGE REGULATOR	SOT23-5L	STMicroelectronics	LD3985M33R or Equivalent
U8	STM32F103CBT6	64/182KB FLASH_USB_72MHz_3.6V	LQFP48 - 7x7 mm	STMicroelectronics	STM32F103CBT6 or Equivalent
X1,X2	8MHz	CRYSTAL 8.0000MHZ 8PF SMD	2.5x3.2 mm	NDK	NX3225GD-8MHZ-STD-CRA-3 or Equivalent
		Rubber feet		Hammond	1421T6CL or Equivalent
J8,JP7,JP8		Female Jumper Isolated, pitch 2.54mm		ASSMANN WSW	AKSCT/Z BLACK or Equivalent
		P.C.B. EVSPIN32F06Q1S1 Rev.1.0	Dim. 75,2 x 141.6 mm	STMicroelectronics	