



Bill of Materials for the BLDC-GEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1,C5	2	10µF ±20% 50V Ceramic Capacitor X7R	10µF 50V	±20%	1210	Taiyo Yuden	UMK325AB7106MM-T	Yes	Yes
C2,C38	2	10µF ±20% 16V Ceramic Capacitor X5R	10µF 16V	±20%	0805	Würth Electronics	885012107014	Yes	Yes
C7	1	10µF ±10% 50V Ceramic Capacitor X7R	10µF 50V	±10%	1210	Taiyo Yuden	UMK325AB7106KM-T	Yes	Yes
C8,C10,C18,C22	4	4.7µF ±10% 50V Ceramic Capacitor X7R	4.7µF 50V	±10%	1210	Murata Electronics	GRM32ER71H475KA88L	Yes	Yes
C9,C12	2	1µF ±10% 50V Ceramic Capacitor X7R	1µF 50V	±10%	1206	Würth Electronics	885012208093	Yes	Yes
C11,C13,C14	3	-	-	-	-	-	-	Yes	Yes
C15,C21,C35,C36	4	10000pF ±10% 50V Ceramic Capacitor X7R	10000pF 50V	±10%	0603	Würth Electronics	885012206089	Yes	Yes
C16,C67	2	100µF 50V Aluminum Capacitors Radial, Can	100µF 50V	±20%	0.394" Dia	Nichicon	URSIH101MPD1TD	Yes	Yes
C17	1	0.10µF ±10% 50V Ceramic Capacitor X7R	0.10µF 50V	±10%	0603	Würth Electronics	885012206095	Yes	Yes
C19,C20,C23, C29,C32,C33	6	1000pF ±5% 50V Ceramic Capacitor COG, NP0	1000pF 50V	±5%	0603	Würth Electronics	885012006063	Yes	Yes
C24,C26,C27, C28,C30,C31	6	-	-	-	-	-	-	Yes	Yes
C63,C64,C65,C66	4	0.022µF ±10% 25V Ceramic Capacitor X7R	0.022µF 25V	±10%	0402	Würth Electronics	885012205052	Yes	Yes
D1	1	Diode Schottky 250V 40A	250V 40A	-	D2PAK	ON Semiconductor	MBRB40250TG	No	Yes
D2	1	Zener Diode 39V 300mW ±5%	39V 300mW	±5%	SOD-323	ON Semiconductor	MM3Z39VT1G	No	Yes
D3,D4,D5,D6,D7,D8	6	Diode Standard 70V 200mA (DC)	70V 200mA	-	SOD-323	ON Semiconductor	MMDL6050T1G	No	Yes
J1,J9	2	STACKING HEADER ARDUINO SHIELD	-	-	-	Samtec	ESW-108-24-G-S	Yes	Yes
J2,J5	2	2 Positions Through-Hole Gold Header Connector	-	-	0.100" (2.54mm)	Würth Electronics	61300211121	Yes	Yes
J3	1	STACKING HEADER ARDUINO SHIELD	-	-	-	Samtec	ESW-110-24-G-S	Yes	Yes
J4	1	2 Position Right Angle Through-Hole Terminal Block Header, Male Pins, Shrouded (4 Side)	-	-	0.150" (3.81mm)	Würth Electronics	691322310002	Yes	Yes
J6	1	3 Positions Through-Hole Gold Header Connector	-	-	0.100" (2.54mm)	Würth Electronics	61300311121	Yes	Yes
J7	1	3 Position Right Angle Through-Hole Terminal Block Header, Male Pins, Shrouded (4 Side)	-	-	0.150" (3.81mm)	Würth Electronics	691322310003	Yes	Yes
J8	1	STACKING HEADER ARDUINO SHIELD	-	-	-	Samtec	ESW-106-24-G-S	Yes	Yes
Q1,Q2,Q3,Q4,Q5,Q6	6	IC N-Channel 40V 3.9W (Ta), 200W (Tc)	40V 3.9W 200W	-	8-SOFL	ON Semiconductor	NTMF55C404NLT3G	No	Yes
RT1	1	NTC Thermistor 10k	10K OHM	1%	0603	Murata Electronics	NCP18XH103F03RB	Yes	Yes
R1,R2,R20,R21,R38, R45,R61,R62,R64,R65	10	0.0 Ohm Jumper 0.1W, 1/10W Chip Resistor	0.0 Ohm 0.1W	Jumper	0603	Yageo	RC0603JR-070RL	Yes	Yes
R3	1	0.0 Ohm Jumper 0.5W, 1/2W Chip Resistor (Automotive)	0.0 Ohm 0.5W	Jumper	1210	Stackpole Electronics Inc.	RMCF1210ZT0R00	Yes	Yes
R7	1	22k Ohm ±1% 0.1W, 1/10W Chip Resistor	22k Ohm 0.1W	±1%	0603	Yageo	RC0603FR-0722KL	Yes	Yes
R9,R11,R14	3	1k Ohm ±1% 0.1W, 1/10W Chip Resistor	1k Ohm 0.1W	±1%	0603	Vishay Dale	RC0603FR-071KL	Yes	Yes
R10,R13,R15,R16,R22, R23,R32,R35,R36,R37, R43,R44,R53,R66,R67	15	0.0 Ohm Jumper 0.1W, 1/10W Chip Resistor	0.0 Ohm 0.1W	Jumper	0603	Yageo	RC0603JR-070RL	Yes	Yes
R12	1	51 Ohm ±1% 0.1W, 1/10W Chip Resistor	51 Ohm 0.1W	±1%	0603	Yageo	RC0603FR-0751RL	Yes	Yes
R17,R18,R28,R34, R41,R47,R49	7	100 Ohm ±1% 0.1W, 1/10W Chip Resistor	100 Ohm 0.1W	±1%	0603	Yageo	RC0603FR-07100RL	Yes	Yes
R19,R26,R58, R59,R60,R63	6	10k Ohm ±1% 0.1W, 1/10W Chip Resistor	10k Ohm 0.1W	±1%	0603	Vishay Dale	CRCW060310K0FKEA	Yes	Yes
R24,R27,R30, R40,R42,R48	6	100k Ohm ±1% 0.1W, 1/10W	100k Ohm 0.1W,	±1%	0603	Yageo	RC0603FR-07100KL	Yes	Yes
R25	1	5.1k Ohm ±1% 0.1W, 1/10W Chip Resistor	5.1k Ohm 0.1W	±1%	0603	Yageo	RC0603FR-075K1L	Yes	Yes
R29,R31	2	5.1k Ohm ±1% 0.1W, 1/10W Chip Resistor	5.1k Ohm 0.1W	±1%	0603	Yageo	RC0603FR-075K1L	Yes	Yes
R46	1	6.8k Ohm ±1% 0.1W, 1/10W Chip Resistor	6.8k Ohm 0.1W	±1%	0603	Yageo	RC0603FR-076K8L	Yes	Yes
R50,R52,R54	3	0.01 Ohm ±1% 1W Chip Resistor	0.01 Ohm 1W	±1%	2512	Susumu	KRL3264-C-R010-F-T1	Yes	Yes
R68,R69,R70	3	10k Ohm ±1% 0.1W, 1/10W Chip Resistor	10k Ohm 0.1W	±1%	0603	Vishay Dale	CRCW060310K0FKEA	Yes	Yes
R74,R75,R76,R77	4	49.9 Ohm ±1% 0.1W, 1/10W Chip Resistor	49.9 Ohm 0.1W	±1%	0603	Yageo	RC0603FR-0749R9L	Yes	Yes
SW1	1	Tactile Switch SPST-NO Top Actuated Surface Mount	-	-	6.20mm x 6.20mm	Würth Electronics	430182043816	Yes	Yes
TP1,TP20	2	-	-	-	-	-	-	Yes	Yes
TP3	1	-	-	-	-	-	-	Yes	Yes

TP5,TP6,TP7,TP8,TP9, TP10,TP12,TP14, TP15,TP17	10	-	-	-	-	-	-	Yes	Yes
TP11,TP13,TP16, TP18,TP19	5	-	-	-	-	-	-	Yes	Yes
TP25	1	-	-	-	-	-	-	Yes	Yes
U3	1	BLDC CONTROLLER	-	-	SQFP48K	ON Semiconductor	LV8907UWR2G	No	Yes
U7	1	IC I/O EXPANDER I2C 16B	-	-	QFN-24	ON Semiconductor	PCA9655EMTTXG	No	Yes
Mating connector for J4	1	2 Position 180° Free Hanging (In-Line) Terminal Block Plug, Female Sockets	-	-	0.150" (3.81mm)	Wurth Electronics	691361300002	Yes	Yes
Mating connector for J7	1	3 Position 180° Free Hanging (In-Line) Terminal Block Plug, Female Sockets	-	-	0.150" (3.81mm)	Wurth Electronics	691361300003	Yes	Yes