

Bill of materials
Table 1. STDES-VPGAN50FL bill of materials

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
1	1	BD2	2A 1000V, DBS, 1000 V, 2 A	Diode Bridge	MDD	DB307S
2	1	C1	2.2nF/630V, P=7.5mm, 630 V, ±10%	Film cap	FARATRONIC	C322J222J30C000
3	1	C2	10nF, 0603, 50 V, ±10%	Ceramic Cap	SUP	C0603X7R103K500NT
4	1	C3	220pF, 0603, 50 V, ±10%	Ceramic Cap	SUP	C0603X7R221K500NT
5	1	C4	470pF, 0603, 50 V, ±10%	Ceramic Cap	SUP	C0603X7R471K500NT
6	1	C6	4.7uF, 1206, 50V, ±10%	Ceramic Cap	SUP	C1206X5R475K500NT
7	2	C7, C8	105K(1uF), 0603, 25V, ±10%	Ceramic Cap	SUP	C0603X5R105K250NT
8	2	C9, C14	225K(2.2uF),0603 , 25 V, ±10%	Ceramic Cap	SUP	C0603X5R225K250NT
9	1	C10	470pF, 1206, 200 V, ±5%	Ceramic Cap	YAGEO	CC1206JKNPOABN471
10	1	C12	102K(1nF), 0603, 50 V, ±10%	Ceramic Cap	SUP	C0603X7R102K500NT
11	1	C13	104K(100nF)/50V 0603 50 ±10%	Ceramic Cap	SUP	C0603X7R104K500NT
12	1	CN1	MKDS1.5/2- 5.08/ 3P, P=5.08mm	Connctor pitch 5mm-3W	PHOENIX CONTACT	MKDS1.5/2- 5.08/ 3W
13	1	CN2	MKDS- 1/2- 3.81/ 2P, P=3.81mm	Connctor Pitch 3.81mm,2W	PHOENIX CONTACT	MKDS-1/2-3.81 /2W
14	2	CX1, CX2	0.22uF/, P=15mm, 275 V, ±10%	Safty cap	FARATRONIC	C42P2224K6SC000
15	2	CY1, CY2	C812, P=7.5mm, 250 V, ±20%	Safty cap	Murata	DE2E3KY222MN3AM02F
16	1	D1	S1M, SMA(DO-214AC), 1000 V, 1 A	Fast diode 1kV,1A,VF=1.1V @1A	MDD	S1M
17	1	D2	1KV/0.15A, SOD-123FL, 1000 V, 1 A	Fast diode	SUNMATE	UFM17PL
18	1	D3	75V 0.15A, SOD-323, 75 V, 0.15 A	Diode	CJ	1N4148WS
19	1	DZ1	22V/0.59W, SOD-123, 22 V, 0.59 W, ±1.82%	Zener diode	Nexperia	BZT52-B22J

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20	1	E1	100uF-450V, Radial,18x35.5m m, 450 V, ±20%	E-cap	Nichicon	UCS2W101MHDFZX
21	1	E2	50V/22uF, Radial,5x11mm, 50 V, ±20%	E-cap	Rubycon	50YXF22MEFC 5*11mm
22	2	E3, E4	16V, 1500uF Radial, 10x12mm, 16 V, ±20%	Polymer-cap	Aishi	SPZ1CM152G12O00RA
23	1	FUSE1	T3.15A/250V, Radial,P=5.08mm, 250 V, 3.15 A	Fuse	LITTELFUSE	40013150000
24	1	IC1	ViperGaN50, SMT	flyback	ST	ViperGaN50
25	1	IC2	EL1018, SOP-4-2.54mm 80	opto-coupler	EVERLIGHT	EL1017
26	1	IC3	TL432AIL3T, SOT-23	36 V, 0.1 A, ±1%	ST	TL432AIL3T
27	1	IC4	SRK1001, SO8	Sync-controller	ST	SRK1001
28	1	L1	SQ1515_30mH, Horizontal type	Common Choke	Dali Electronic	PSQ1515H-253UB
29	1	M1	STL110N10F7, PowerFLAT	NMOS,DFN5X6, 7mOhm, 5x6, 100 V, 107 A, 136 W	ST	STL110N10F7
30	1	NTC1	2.2 Ohms 0.591" (15.00mm), BULK / P=7.5mm, 7 A, ±20%	NTC ICL 2.2 OHM 20% 7A 15MM	EPCOS	B57237S0229M000
31	4	R1,R2,R3,R4	470K-1206, 1206, 1/4 W, ±5%	Resistors	SUP	RR3216(1206)L474JT
32	1	R5	100k, 0603, 1/10 W, ±1%	Resistors	SUP	RR1608(0603)L1003FT
33	1	R6	24k, 0603, 1/10 W, ±1%	Resistors	SUP	RR1608(0603)L2402FT
34	2	R7, R9	4M7-1206, 1206, 1/4 W, ±5%	Resistors	SUP	RR3216(1206)L475JT
35	2	R8, R23	NC_20R-1206, 1206, 1/4 W, ±1%	Resistors	SUP	RR3216(1206)L20R0FT
36	1	R10	100ohm-1206, 1206, 1/4 W, ±5%	Resistors	SUP	RR3216(1206)L101JT
37	2	R12, R31	0ohm, 0603, 1/10 W, ±5%	Resistors	SUP	RR1608(0603)L0R0JT
38	1	R13	220k, 0603, 1/10 W, ±1%	Resistors	SUP	RR1608(0603)L2203FT
39	1	R14	36k, 0603, 1/10 W, ±1%	Resistors	SUP	RR1608(0603)L3602FT
40	2	R15, R16	20ohm-1206, 1206, 1/4 W, ±1%	Resistors	SUP	RR3216(1206)L20R0FT
41	2	R17, R18	150K-1206, 1206, 1/4 W, ±5%	Resistors	SUP	RR3216(1206)L154JT
42	1	R19	2.2ohm-1206, 1206, 1/4 W, ±5%	Resistors	SUP	RR3216(1206)L2R2JT

Item	Q.ty	Ref.	Part/value	Description	Manufacturer	Order code
43	1	R20	10K, 0603, 1/10 W, $\pm 5\%$	Resistors	SUP	RR1608(0603)L103JT
44	2	R21, R28	51K, 0603, 1/10, $\pm 5\%$	Resistors	SUP	RR1608(0603)L513JT
45	1	R22	330ohm, 0603, 1/10 W, $\pm 1\%$	Resistors	SUP	RR1608(0603)L3300FT
46	1	R24	1k, 0603, 1/10 W, $\pm 5\%$	Resistors	SUP	RR1608(0603)L102JT
47	1	R25	1.5M, 0603, 1/10 W, $\pm 1\%$	Resistors	SUP	RR1608(0603)L1504FT
48	1	R26	20k, 0603, 1/10 W, $\pm 1\%$	Resistors	SUP	RR1608(0603)L2002FT
49	1	R27	75k, 0603, 1/10 W, $\pm 1\%$	Resistors	SUP	RR1608(0603)L7502FT
50	2	R29, R30	68k, 0603, 1/10 W, $\pm 1\%$	Resistors	SUP	RR1608(0603)L6802FT
51	1	RV1	TVR14561, $\Phi=14\text{mm}$, 560 V	TVR	TKS	TVR14561KSY
52	1	T1	POT3014	Transformer	Jingshi	PC95POT3014-10PIN

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