

PROJECT NAME:

STEVAL-ISV014V1

BILL OF MATERIALS

	Item	Quantity	Reference	Part / Value	Tolerance %	Voltage Current	WATT	PACKAGE	Manufacturer	Manufacturer Code	RS/Distelec/Other Code	More Info
SPV1040, SOLAR CHARGER SECTION	1	1	J1	2 pins screw connector				TH-5mm	phoenix contact	1935161	RS: 548-7238	screw connector for connection of PV panel
	2	1	Cin1	47µF		6.3V		0805	KEMET	C0805C476M9PAC7800	RS: 691-1183	Input and Output Capacitor
	3	1	C2	1nF		50V		0805	KEMET	C0805C102K5RAC	RS: 264-4337	Voltage Sensing Capacitors
	4	1	C4	10nF		50V		0805	KEMET	C0805C103K5RAC	RS: 264-4371	Voltage Sensing Capacitors
	5	1	Cout1	10uF		16V		0805	KEMET	C0805C106K4PAC7800	RS: 691-1161	Output pin Capacitor
	6	1	VR3	(0-1k)			500mW	63M	VISHAY	63M-102	RS:1831300	Trimmer for VMPP-SET regulation
	7	0	R4	DNM				0805				Partitioning for VMPP-SET regulation
	7	1	VR4	500k			500mW	63M	VISHAY	M63M504KB40	Farnell: 9607897	
	8	1	R39	82k	5%		125mW	0805	VISHAY	CRCW080582K0JNEAIF	Farnell: 1739254	
	9	1	L1	10uH		Isat > 2A, Irms 1.8A		2220(EIA)	COILCRAFT COILCRAFT EPCOS	XAL6060-103ME_ MSS7341-103ML_ B82442T1103K050		Boost Inductor
	10	1	RS1	0Ω		50mV @Iout_max	125mW	0805	VISHAY	CRCW08050000Z0EA	Farnell: 1469846	Output current sense
	11	1	R1	2M			125mW	0805	VISHAY	CRCW08052M00FKEA	Farnell: 1469652	output voltage partition
	12	1	R2	680k			125mW	0805	We:Wyn	WCR0805-680KFI	Farnell: 1099822	output voltage partition
	13	1	R5	0Ω			125mW	0805	VISHAY	CRCW08050000Z0EA	Farnell: 1469846	X_SHUT start up
	14	1	U1	SPV1040				TSSOP8	ST	SPV1040T		SPV1040, mppt boost controller
	15	1	Dout1	SMM4F5.0		Vbr = 5V, Vcl = 9V		STmite flat	ST	SMM4F5.0		Protection device for open load
	16	2	RF1, RF2	1k			125mW	0805	VISHAY	CRCW08051K00FKEA	RS: 679-0982	
	18	1	CF1	1uF		10V		0805	MURATA	GRM21BR71C105KA01L	RS: 653-0535	
Battery Charge Monitor	19	1	U2	TS432		1.24V-10V		SOT23-3L	ST	TS432		Voltage Reference
	20	1	C3	100nF		16V		0805	KEMET	C0805C104K4RAC7800	RS: 648-0957	
	21	2	D4, D5	TH GREEN LED		1.8V, 2mA		TH	AVAGO TECH.	HLMP-1790	RS: 180-8451	
	23	2	D6, D7	TH RED LED		1.8V, 2mA		TH	AVAGO TECH.	HLMP-1700	RS: 171-1234	
	25	1	D8	STPS2L30A		If=2A, Vrrm=30V		SMB-FLAT	ST	STPS2L30UF		
	26	4	8, R10, R11, R13, R14	1kΩ			125mW	0805	VISHAY	CRCW08051K00FKEA	RS: 679-0982	
	30	1	R38	0Ω			125mW	0805	VISHAY	CRCW08050000Z0EA	Farnell: 1469846	
	31	1	R9	27k	1%		125mW	0805	VISHAY	CRCW080527K0FKEA	Farnell: 1469907	
	32	1	VR12	1M			500mW	63M	VISHAY	63M-105	RS: 183-1401	
	33	2	R25, R26	1M			125mW	0805	MULTICOMP	MC0805S8F1004T5E	Farnell: 1646371	
	35	1	R40	8k			125mW	0805	VISHAY	CRCW08058k06FKEA	Farnell: 1653038	
	36	1	R41	4.4k			125mW	0805	VISHAY	CRCW08054k42FKEA	Farnell: 1653011	
	37	1	R42	100k			125mW	0805	VISHAY	CRCW0805100KFKEA	Farnell: 1469860	
	38	1	R43	1kΩ			125mW	0805	VISHAY	CRCW08051K00FKEA	RS: 679-0982	
	39	1	U3	TS339				SO14	ST	TS339		Quad comparator
			U28	STS5PF30L				SO8	ST	STS5PF30L		Pchannel
	40	1	C12	MFC					MURATA	MFC		Milli Farad Capacitor: HAND SOLDER
	41	1	U4	L6920				MSOP8	ST	L6920DCTR		
L6920 Supply	42	1	0Ω Resistor on SW1	bidirectional switch			125mw	0805	VISHAY	CRCW08050000Z0EA	Farnell: 1469846	3 way solder mask 0805 Default: 0Ω between pin 1-2 (fix 5V)
	43	1	0Ω Resistor on SW2	bidirectional switch			125mw	0805	VISHAY	CRCW08050000Z0EA	Farnell: 1469846	3 way solder mask 0805 Def.: 0Ω between pin1-2(Turn On)
	44	1	R32	1k			125mw	0805	VISHAY	CRCW08051K00FKEA	RS: 679-0982	
	45	1	R33	0.68k			100mW	0805	MULTICOMP	MC0805WAF6800T5E-TC	Farnell: 1127856	
	46	0	R27 (DNM)	DNM				0805				
	46	1	C5	100nF		16V		0805	KEMET	C0805C104K4RAC7800	RS: 648-0957	
	47	1	C20	47uF		6.3V		0805	KEMET	C0805C476M9PAC7800	RS: 691-1183	
	48	1	C21	47uF		6.3V		0805	KEMET	C0805C476M9PAC7800	RS: 691-1183	
	49	1	L2	10uH		Isat > 2A, Irms 1.8A		2220(EIA)	COILCRAFT COILCRAFT EPCOS	XAL6060-103ME_ MSS7341-103ML_ B82442T1103K050		Boost Inductor
	50	1	R34	43.2k			125mW	0805	VISHAY	CRCW0805543K2FKEA	Farnell: 1185095	

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	51	1	R35	49.9k			125mW	0805	VISHAY	CRCW080549K9FKEA	Farnell: 1469934	
	52	1	R36	75k			125mW	0805	VISHAY	CRCW080575K0FKEA	Farnell: 1653035	
	53	1	R37	49.9k			125mW	0805	VISHAY	CRCW080549K9FKEA	Farnell: 1469934	
	54	1	R15	1.8k Ω			125mW	0805	VISHAY	CRCW08051K80JNEAIF	Farnell: 1739233RL	
	55	1	D9	SMD LED		2.5V, 25mA		0805	Kingbright	KP-2012SGC	RS: 466-3807	
	56	1	J34	USB A				USB A	Mill-Max	896-43-005-00-100001	Digi-Key: ED2989-ND	
	57	1	U5	STBC21				HTSSOP14	ST	STBC21W-H		
	58	1	D3	STPS2L30A		If=2A, Vrrm=30V		SMB-FLAT	ST	STPS2L30UF		
	59	1	J31	Mini-USB-B				MiniUSB-B	MOLEX	548190578	RS: 515-1995	
	60	1	C13	47uF		6.3V		0805	KEMET	C0805C476M9PAC7800	RS: 691-1183	
	61	1	C6	47uF		6.3V		0805	KEMET	C0805C476M9PAC7800	RS: 691-1183	
	62	1	C8	100nF		16V		0805	KEMET	C0805C104K4RAC7800	RS: 648-0957	
	63	1	R16	4.7k Ω			250mW	0805	MULTICOMP	MCHP05W4F4701T5E	Farnell: 1576468RL	
	64	1	R17	4.7k Ω			250mW	0805	MULTICOMP	MCHP05W4F4701T5E	Farnell: 1576468RL	
	65	1	R18	0 Ω			125mw	0805	VISHAY	CRCW08050000Z0EA	Farnell: 1469846	
	66	1	R20	9.1k Ω			125mw	0805	VISHAY	CRCW08059K10FKEA	RS: 679-1755	
	67	1	R21	160k Ω			125mw	0805	PANASONIC	ERA6AEB164V	Farnell: 1811475	
	68	1	C9	4.7uF		10V		0805	MURATA	GRM21BF51A475ZA01L	RS: 653-0478	
	69	1	C7	10uF		16V		0805	KEMET	C0805C106K4PAC7800	RS: 691-1161	Output pin Capacitor
	70	1	R19	3.3k Ω			125mw	0805	MULTICOMP	MC0805S8F3301T5E	Farnell: 1632483	
	71	1	R30	10k Ω			125mw	0805	MULTICOMP	MC0805S8F1002T5E	Farnell: 1632457	
	72	1	R31	10k Ω			125mw	0805	MULTICOMP	MC0805S8F1002T5E	Farnell: 1632457	
	73	1	R29	5.1k Ω			125mw	0805	MULTICOMP	MC0805S8F5101T5E	Farnell: 1632499	
	74	1	T1	STN4NF03L				SOT-223	ST	STN4NF03L		
	75	2	R6, R7	0.91k			125mW	0805	MULTICOMP	MC0805S8F9090T5E	Farnell: 1646481	
	77	2	D1, D2	SMD LED		2.5V, 25mA		0805	Kingbright	KP-2012SGC	RS: 466-3807	
	79	1	J30	3 pins connector				TH-5mm	phoenix contact	1935174	548-7244	I2C connector for SBC21
	80	1	U6	STC3100				DFN8 3x3	ST	STC3100IST		
	81	1	R22	200k Ω	0.10%		125mW	0805	VISHAY	CRCW0805200KFKEA	Farnell: 1652950	
	82	1	R23	33m Ω			250mW	0805	SUSUMU	RL1220T-R033-T	Farnell: 9376739	
	83	1	R24	1k Ω			125mw	0805	VISHAY	CRCW08051K00FKEA	RS: 679-0982	
	84	1	C10	220nF		16V		0805	MURATA	GRM219R71C224KA01D	RS: 723-6360	
	85	1	C11	1uF		10V		0805	MURATA	GRM21BR71C105KA01L	RS: 653-0535	
	86	1	J32	4 pins scrow connector				TH-5mm	PHOENIX CONTACT	1935187	RS: 5487250	screw connector for connection of LI-Ion Battery
	87	1	J33	3 pins connector				TH-5mm	phoenix contact	1935174	548-7244	I2C connector for STC3100
	88	1	R28	220 Ω	1%		125mW	0805	VISHAY	CRCW0805220RFKEA	Farnell: 1469899	