



## Bill of Materials for the SEC-6D6KW-OBC-TTP-GEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
U10	1	IC 600V, 4.5A, High & Low Side Gate Driver, Sop-8	FAN7191MX-F085		Sop8	ON Semiconductor	FAN7191MX-F085	No	Yes
U20, U21, U30, U31, U40, U41	6	IC +4/-8A Galvanic Isolated Gate Driver, SOIC-16W	NCV57000DWR2G		SOP16W	ON Semiconductor	NCV57000DWR2G	No	Yes
U50	1	IC 650V Switcher for Buck Converters, PDIP-7	FSL336LRN		DIP7	ON Semiconductor	FSL336LRN	No	Yes
U55, U60	2	IC Buck Switcher, 1.2 A, 2 MHz, SO8EP	NCV890100PDR2G		SOIC8E	ON Semiconductor	NCV890100PDR2G	No	Yes
U56	1	IC LDO 400mA, 3.3V, SOT-223	NCV4274CST33T3G		SOT-223	ON Semiconductor	NCV4274CST33T3G	No	Yes
U65, U68	2	IC Shunt Regulator, SOT23-3L	SC431AVSNT1G		SOT-23-3L	ON Semiconductor	SC431AVSNT1G	No	Yes
U70	1	IC Half-Bridge Controller, Sop-8	NCL30059BDR2G		Sop8	ON Semiconductor	NCL30059BDR2G	No	Yes
U80	1	IC Current Sense Amplifier, SC70-6	NCV210RSQT2G		SC70-6	ON Semiconductor	NCV210RSQT2G	No	Yes
U82	1	IC Quad, Single Supply Comparator, Sop-14	NCV2901DR2G		SOP14	ON Semiconductor	NCV2901DR2G	No	Yes
U83	1	IC RRO OP Amplifier, SOT-23 5L	NCV2003SN2T1G		SOT-23-5L	ON Semiconductor	NCV2003SN2T1G	No	Yes
								Yes	Yes
Q20, Q21, Q30, Q31, Q40, Q41	6	SiC MOSFET 60mΩ 900V, TO-247	NVHL060N090SC1		TO247	ON Semiconductor	NVHL060N090SC1	No	Yes
Q10, Q11	2	MOSFET 25mΩ 650V, TO-247	NVHL025N65S3		TO247	ON Semiconductor	NVHL025N65S3	No	Yes
Q70	1	MOSFET Dual N-Channel 60V, 28mΩ, SO8FL	NVMFD5C680NLT1G		SO8FL	ON Semiconductor	NVMFD5C680NLT1G	No	Yes
Q1	1	Transistor 40V 0.6A NPN, SOT23	SMMBT4401LT1G		SOT-23-3L	ON Semiconductor	SMMBT4401LT1G	No	Yes
Q22, Q23, Q25, Q27, Q32, Q33, Q35, Q42, Q43, Q45	10	Transistor 40V 0.6A PNP, SOT23	SMMBT2907ALT1G		SOT-23-3L	ON Semiconductor	SMMBT2907ALT1G	No	Yes
Q24, Q26, Q34, Q36, Q44, Q46	6	Transistor 40V 0.2A NPN, SOT23	MMBT3904LT1G		SOT-23-3L	ON Semiconductor	MMBT3904LT1G	No	Yes
								Yes	Yes
D10, D20, D21, D30, D31, D40, D41	7	Diode 600V 1A 35nS, SMA	ES1J		DO-214AC(SMA)	ON Semiconductor	ES1J	No	Yes
D50, D51	2	Diode 600V 2A 50nS, SOD-123FL	NRVHP260SFT3G		SOD-123FL	ON Semiconductor	NRVHP260SFT3G	No	Yes
D56, D61	2	Schottky Diode 3A 40V, SMA	MBRA340T3G		DO-214AC(SMA)	ON Semiconductor	MBRA340T3G	No	Yes
D23, D24, D25, D26, D33, D34, D35, D36, D43, D44, D45, D46, D70, D71, D72, D73, D74, D75	18	Schottky Diode Dual 0.2A 30V, SOT-23-3L	NSVBAT54SWT1G		SOT-23-3L	ON Semiconductor	NSVBAT54SWT1G	No	Yes
D1, D27, D37, D47, D55, D60, D100	7	Switching Diode 0.2A 100V, SOD323	BAS16H		SOD-323M	ON Semiconductor	BAS16H	No	Yes
D22, D32, D42,	3	ZENER Diode 0.5W 4.7V, SOD123	SZMMSZ4V7T1G		SOD-123FL	ON Semiconductor	SZMMSZ4V7T1G	No	Yes
Power	1	LED D=5mm THT Green	151051VS04000			WURTH	151051VS04000	Yes	Yes
Fault	1	LED D=5mm THT Red	151051RS11000			WURTH	151051RS11000	Yes	Yes
								Yes	Yes
R240, R241, R340, R341, R440, R441	6	Chip resister 0805 2.2ohm-J	2.2		SMT_0805_RM	Any		Yes	Yes
R13, R74, R75, R81, R110, R111, R238, R239, R338, R339, R438, R439	12	Chip resister 0805 10ohm-J	10		SMT_0805_RM	Any		Yes	Yes
R15, R17	2	Chip resister 0805 22ohm-J	22		SMT_0805_RM	Any		Yes	Yes
R11, R12, R14, R28, R29, R38, R39, R48, R49, R59, R63, R70	12	Chip resister 0805 100ohm-J	100		SMT_0805_RM	Any		Yes	Yes
R58, R62, R114, R115,	4	Chip resister 0805 470ohm-J	470		SMT_0805_RM	Any		Yes	Yes

R57, R61	2	Chip resister 0805 820ohm-J	820		SMT_0805_RM	Any		Yes	Yes
R20, R25, R30, R35, R40, R45, R112, R203, R205, R209, R303, R305, R309, R403, R405, R409	16	Chip resister 0805 1Kohm-J	1K		SMT_0805_RM	Any		Yes	Yes
R3, R68, R73, R88, R98, R99, R201, R202, R204, R206, R208, R210, R211, R301, R302, R304, R306, R308, R310, R311, R401, R402, R404, R406, R408, R410, R411	27	Chip resister 0805 2.2Kohm-J	2.2K		SMT_0805_RM	Any		Yes	Yes
R52,	1	Chip resister 0805 4.3Kohm-J	4.3K		SMT_0805_RM	Any		Yes	Yes
R102, R104	2	Chip resister 0805 4.42Kohm-F	4.42KF		SMT_0805_RM	Any		Yes	Yes
R231, R232, R234, R235, R331, R332, R431, R432	8	Chip resister 0805 4.7Kohm-J	4.7K		SMT_0805_RM	Any		Yes	Yes
R103	1	Chip resister 0805 4.75Kohm-F	4.75KF		SMT_0805_RM	Any		Yes	Yes
R72	1	Chip resister 0805 6.2Kohm-J	6.2K		SMT_0805_RM	Any		Yes	Yes
R50, R55, R60, R67, R109, R117, R220, R236, R237, R320, R336, R337, R420, R436, R437	15	Chip resister 0805 10Kohm-J	10K		SMT_0805_RM	Any		Yes	Yes
R91, R94, R108	3	Chip resister 0805 12Kohm-J	12K		SMT_0805_RM	Any		Yes	Yes
R84, R87, R95	3	Chip resister 0805 17.6Kohm-F	17.6KF		SMT_0805_RM	Any		Yes	Yes
R71, R76, R77	3	Chip resister 0805 18Kohm-J	18K		SMT_0805_RM	Any		Yes	Yes
R66, R221, R321, R421	4	Chip resister 0805 20Kohm-J	20K		SMT_0805_RM	Any		Yes	Yes
R51, R116, R118	3	Chip resister 0805 24Kohm-J	24K		SMT_0805_RM	Any		Yes	Yes
R105, R218	2	Chip resister 0805 30Kohm-J	30K		SMT_0805_RM	Any		Yes	Yes
R97	1	Chip resister 0805 39Kohm-J	39K		SMT_0805_RM	Any		Yes	Yes
R96,	1	Chip resister 0805 51Kohm-J	51K		SMT_0805_RM	Any		Yes	Yes
R16, R18, R113	3	Chip resister 0805 100Kohm-J	100K		SMT_0805_RM	Any		Yes	Yes
R22, R27, R32, R37, R42, R47	6	Chip resister 1206 4.7ohm-J	4.7		SMT_1206_RM	Any		Yes	Yes
R207, R307, R407	3	Chip resister 1206 10ohm-J	10		SMT_1206_RM	Any		Yes	Yes
R21, R26, R31, R36, R41, R46	6	Chip resister 1206 15ohm-J	15		SMT_1206_RM	Any		Yes	Yes
R1, R2, R6, R230, R330, R430	6	Chip resister 1206 1Kohm-J	1K		SMT_1206_RM	Any		Yes	Yes
R23, R24, R33, R34, R43, R44, R65	7	Chip resister 1206 2.2Kohm-J	2.2K		SMT_1206_RM	Any		Yes	Yes
R82, R83, R85, R86, R89, R90, R92, R93, R100, R101, R106, R107	12	Chip resister 1206 1Mohm-J	1M		SMT_1206_RM	Any		Yes	Yes
R80	1	Chip resister 2512 2mohm-F	SMA25A2FR002T		SMT_2512_R	SART	SMA25A2FR002T	Yes	Yes
R80	1	Chip resister 2512 2mohm-F	ERJMS4SF2M0*		SMT_2512_R	Panasonic	ERJMS4SF2M0*	Yes	Yes
RT1, RT2	2	NTC 5ohm D31	B57127P0509M301		NTC-D31	TDK	B57127P0509M301	Yes	Yes
RV1	1	Disk Varistor 320V D20	820423211		Thermistor-20mm-2	WURTH	820423211	Yes	Yes
RV1	1	Disk Varistor 320V D20	B72220X3321K502		Thermistor-20mm-2	TDK	B72220X3321K502	Yes	Yes
RV1	1	Disk Varistor 320V D20	V20E300AUTO		Thermistor-20mm-2	Littelfuse	V20E300AUTO	Yes	Yes
								Yes	Yes
C11, C12, C21, C25, C27, C29, C31, C35, C37, C39, C41, C45, C47, C49, C82, C84, C85, C86, C87, C88, C89, C90, C91, C95, C51, C227,	24	<a href="#">MLCC 0805-450V-100pFK-NP0</a>	CGA4C4C0G2W101J		SMT_0805_CM	TDK	CGA4C4C0G2W101J	Yes	Yes
C83, C203, C207, C226, C303, C307, C403, C407	2	MLCC 0805-450V-471J-NP0	CGA4C4C0G2W471J		SMT_0805_CM	TDK	CGA4C4C0G2W471J	Yes	Yes
C58, C63	8	MLCC 0805-100V-102M-NP0	CGA4C2C0G2A102J		SMT_0805_CM	TDK	CGA4C2C0G2A102J	Yes	Yes
C8, C26, C28, C36, C38, C46, C48, C56, C57, C61, C62, C80, C81, C92, C93, C205, C206, C305, C306, C405, C406, C50	21	MLCC 0805-50V-222J-NP0	CGA4C2C0G1H222J		SMT_0805_CM	TDK	CGA4C2C0G1H222J	Yes	Yes
C50	1	MLCC 0805-100V-104K-X7R	CGA4J2X7R2A104K		SMT_0805_CM	TDK	CGA4J2X7R2A104K	Yes	Yes
C52, C70, C211, C212, C311, C312, C411, C412, C208, C209, C308, C309, C408, C409	8	MLCC 0805-25V-224K-X7R	CGA4J2X7R1H224K		SMT_0805_CM	TDK	CGA4J2X7R1H224K	Yes	Yes
C74, C75, C76, C77, C78, C79	6	MLCC 0805-50V-105K-X7R	CGA4J3X7R1H105K125AB		SMT_0805_CM	TDK	CGA4J3X7R1H105K125AB	Yes	Yes
C60	6	MLCC 0805-25V-225K-X7R	CGA4J3X7R1E225K		SMT_0805_CM	TDK	CGA4J3X7R1E225K	Yes	Yes
C13, C14, C15, C20, C22, C23, C24, C30, C32, C33, C34, C40, C42, C43, C44, C55, C59, C64, C73	6	MLCC 1206-50V-473J-NP0	CGA5H2C0G1H473J		SMT_1206_CM	TDK	CGA5H2C0G1H473J	Yes	Yes
C16, C17, C18, C53, C129, C229	1	MLCC 1206-50V-475K-X7R	CGA5L3X7R1H475K		SMT_1206_CM	TDK	CGA5L3X7R1H475K	Yes	Yes
C54	6	MLCC 2220-630V-105M-X7T	CAA572X7T2J105M		CAP2220	TDK	CAA572X7T2J105M	Yes	Yes
C7	1	MLCC 2220-35V-107M-X7T	CAA572X7R1V107M		CAP2220	TDK	CAA572X7R1V107M	Yes	Yes
C204, C304, C404	1	MLCC 2220-35V-157M-X7T	CAA573X7R1E157M		CAP2220-3	TDK	CAA573X7R1E157M	Yes	Yes
C2	3	X-Cap 275VAC 0.47uF X2	890324025039CS		WCAP-FTX2_18x8x14_CS	WURTH	890324025039CS	Yes	Yes
C1	1	X-Cap 275VAC 1uF X2	890324026027CS		WCAP-FTX2_26x11x20_CS	WURTH	890324026027CS	Yes	Yes
C3, C4, C5, C6	1	X-Cap 275VAC 2.2uF X2	890324026034CS		WCAP-FTX2_26x15x25_CS	WURTH	890324026034CS	Yes	Yes
	4	E-Cap 450V-680uF-105 (35X57mm)	861141486026		WCAP-AI3H_35x57	WURTH	861141486026	Yes	Yes
								Yes	Yes
CM1	1	Common Choke 1.5mH 38A	7448063801		L-WE-CMBNC_Type XXL_7448063801	WURTH	7448063801	Yes	Yes
CT20, CT21, CT30, CT31, CT40, CT41	6	Current Transformer EE13/7/4	750316796		CT_EE13/7/4	WURTH	750316796	Yes	Yes
L21, L22, L31, L32, L41, L42, L51, L80	8	SMD Inductor 3225-100uH-0.12A	NLCV32T-101K-EFD		Bead_1210	TDK	NLCV32T-101K-EFD	Yes	Yes
L21, L22, L31, L32, L41, L42, L51, L80	8	SMD Inductor 3225-100uH-0.26A	LQH3NPH101MMEL		Bead_1210	Murata	LQH3NPH101MMEL	Yes	Yes
L21, L22, L31, L32, L41, L42, L51, L80	8	SMD Inductor 3225-100uH-0.3A	74403042101		Bead_1210	WURTH	74403042101	Yes	Yes
L50	1	Radial Leaded Inductor 1014, 150 uH, 2 A	7447480151		WE-TL_1014_Standard	WURTH	7447480151	Yes	Yes

L55, L60	2	SMD Inductor 7X7X3.5mm-22uH-1.6A	784778220		INDUCTOR-7*7*3.5	WURTH	784778220	Yes	Yes
T70, T71, T72	3	DCDC Transformer EP7	750344380		EP7_ED8	WURTH	750344380	Yes	Yes
								Yes	Yes
RL1	1	RELAY 33A 250VAC	ALFG2PF121		Relay- SPST-25A	Panasonic	ALFG2PF121	Yes	Yes
F1	1	FUSE 63A 500V 10X32mm	0606063.UXTHP		Fuse_63A	Littelfuse	0606063.UXTHP	Yes	Yes
F2	1	FUSE 30A 250V 6X30mm	0505030.MXEP		FUSE-L	Littelfuse	0505030.MXEP	Yes	Yes
Control_Interface	1	Connector WR-BHD Male Box Header 34Pns	61203421621		61203421621	WURTH	61203421621	Yes	Yes
L, N, L1A, L1B, L2A, L2B, L3A, L3B, V+, V-	10	Connector 5mm Screw type. 200X300mil	74760050		TermL	WURTH	74760050	Yes	Yes
FAN1, FAN2	2	Connector 2.54mm 2Pin	Header 2		2.54x2			Yes	Yes
HS1	1	Heat Sink	180X20mm		XH-2A	Any		Yes	Yes