



Bill of Materials for the SEC-6D6KW-OBC-SIC-GEVB_MAIN Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
+12V	1	Connector 5mm 2Pins Screw type				WURTH	6.91102E+11	Yes	Yes
AC1, AC2, L, L20C, L30C, L40C, LLC_T_A, LLC_T_B, LLC_T_C, LLC_T_D, N, REC+, REC-, VO+, VO-	15	Connector 5mm Screw type. 200X300mil				WURTH	74760050	Yes	Yes
C1, C2	2	X-Cap 275VAC 2.2uF X2	2.2uF			WURTH	890324026034CS	Yes	Yes
C3	1	Film Cap 630V 2.2uF PP	2.2uF			Panasonic	ECWFD2J225K	Yes	Yes
C4, C5, C152	3	Y-Cap 400VAC 4700pF Y2	4700pF			TDK	CD45-E2GA472M-NKA	Yes	Yes
C6, C7, C8, C9	4	E-Cap 450V-680uF-105 (35X57mm)	680uF			WURTH	8.61141E+11	Yes	Yes
C11, C158	2	MLCC 2220-25V-157K-X7R			2220	TDK	CAA573X7R1E157M	Yes	Yes
C12, C55, C56, C57	4	MLCC 0805-35V-475M-X7R	4.7uF		0805	TDK	CGA4J1X7R1V475K125AC	Yes	Yes
C14, C67, C68	3	MLCC 2220-630V-105M-X7T			2220	TDK	CAA572X7T2J105M	Yes	Yes
C15, C19, C38, C48, C49, C50, C59, C78, C86, C87, C88, C89, C97, C100, C103, C120, C184, C185	18	MLCC 0805-25V-104M-X7R	.1uF		0805	WURTH	885012207072	Yes	Yes
C51, C156	2	MLCC 0805-50V-103M-X7R	.01uF		0805	WURTH	885012207092	Yes	Yes
C53, C58, C65, C79, C93, C94, C95, C134, C153, C157, C176, C187	12	MLCC 1206-25V-106K-X7R	10uF		1206	WURTH	885012208069	Yes	Yes
C54, C186	2	MLCC 0805-50V-222M-X7R	2200pF		0805	WURTH	885012207088	Yes	Yes
C64	1	Film Cap 800V 30uF PP	30uF			Panasonic	EZPE80306MTA	Yes	Yes
C96, C99, C102	3	MLCC 0805-25V-474M-X7R	.47uF		0805	WURTH	885012207076	Yes	Yes
C98, C101, C104	3	MLCC 0805-25V-225M-X7R	2.2uF		0806	WURTH	885012207079	Yes	Yes
C150, C180, C181, C182, C183, C190, C191	7	MLCC 0805-50V-100pFK-NP0	100pF		0807	WURTH	8.85012E+11	Yes	Yes
C151	1	MLCC 1206-630V-222K-X7R	2200pF		1206	TDK	CGA5H4X7R2J222K	Yes	Yes
C159	1	MLCC 2220-630V-105M-X7T			2220	TDK	CAA572X7T2J105M	Yes	Yes
C160, C169	2	MLCC 2220-35V-107K-X7R			2220	TDK	CAA572X7R1V107M	Yes	Yes
C189	1	MLCC 1206-35V-475K-X7R	4.7uF		1206	TDK	CGA5L1X7R1V475K160AC	Yes	Yes
D2	1	Zener Diode 13V 0.5W, SOD-123				ON Semiconductor	SZMMSZ13T1G	No	Yes
D5, D6, D8, D77, D78, D150, D164	7	Switching Diode 100V 200mA, SOD-323				ON Semiconductor	SBAS16HT1G	No	Yes
D9, D163	2	Schottky 40V 3A, SMA				ON Semiconductor	NRVBA340T3G	No	Yes
D10, D11, D12, D38, D39, D41	6	Schottky 40V 0.5A, SOD-123				ON Semiconductor	MBR0540	No	Yes
D13, D14, D15, D18, D19, D25, D26	7	Fast Rectifiers 600V 1A, SMA				ON Semiconductor	ES1J	No	Yes
D20, D30, D40, D80, D81, D82, D83	7	SIC Diode 30A 650V, TO220				ON Semiconductor	FFSP3065A	No	Yes
D152	1	Rectifier 1000V 1A, SMA				ON Semiconductor	NRVA400T3G	No	Yes
D153, D155, D156	3	Schottky 100V 3A, SMC				ON Semiconductor	NRVBS3100T3G	No	Yes
D154	1	Zener Diode 6.8V 500mW, SOD-123FL				ON Semiconductor	SZMMSZ6V8T1G	No	Yes
D157, D162	2	Zener Diode 22V 500mW, SOD-123FL				ON Semiconductor	SZMMSZ22T1G	No	Yes
L1, L2	2	Common Choke 1.5mH 38A				WURTH	7448063801	Yes	Yes
L3, L153	2	SMD Inductor 7X7X3.5mm-22uH-1.6A				WURTH	784778220	Yes	Yes
L3, L153	2	SMD Inductor 7X7X3.5mm-22uH-1.6A				TDK	SPM7045VT-220M-D	Yes	Yes
L20, L30, L40	3	PFC Inductor 180uH 26A				Magsonder	HTR-253550-181M	Yes	Yes
L20, L30, L40	3	PFC Inductor 180uH 26A				Sunlordinc	ARLDC805665C141N3B	Yes	Yes
L21, L31, L41	3	Chip Inductor 2016-1uH				WURTH	74438343010	Yes	Yes
L21, L31, L41	3	Chip Inductor 2016-1uH				TDK	TFM201610ALMA1R0MTAA	Yes	Yes
L21, L31, L41	3	Chip Inductor 2016-1uH				MURATA	DFE2MCAH1R0MJ0L	Yes	Yes
Q1, Q50	2	NPN Transistor 60V 200mA, SOT-23				ON Semiconductor	SMMBT3904LT1G	No	Yes
Q20, Q30, Q40	3	SiC MOS 900V 20mR, TO-247				ON Semiconductor	NVHL020N090SC1	No	Yes
Q60, Q62, Q70, Q72	4	SiC MOS 900V 60mR, TO-247				ON Semiconductor	NVHL060N090SC1	No	Yes
Q64	1	PNP Transistor -40 V 2.0 A, SOT-23				ON Semiconductor	NSV40200LT1G	No	Yes
R1, R2, R5, R6, R24, R25	6	Chip resistor 1206 1Mohm-J	1Mohm			Any		Yes	Yes
R3, R4, R22, R127, R128, R129	6	Chip resistor 0805 0ohm-J	0ohm			Any		Yes	Yes
R7, R8, R113	3	Chip resistor 2512 2mohm-F	2mohm			SART	SMA25A2FR002T	Yes	Yes
R7, R8, R113	3	Chip resistor 2512 2mohm-F	2mohm			Panasonic	ERJMS4SF2M0*	Yes	Yes
R9, R10	2	Chip resistor 1206 1Kohm-J	1Kohm			Any		Yes	Yes
R11, R15, R16, R64, R99, R117, R118, R154, R155, R156	10	Chip resistor 0805 470ohm-J	470ohm			Any		Yes	Yes
R12	1	Chip resistor 0805 1.2Kohm-J	1.2Kohm			Any		Yes	Yes
R13, R112, R264	3	Chip resistor 0805 10ohm-J	10ohm			Any		Yes	Yes
R14	1	Chip resistor 0805 12.7Kohm-F	12.7Kohm			Any		Yes	Yes
R18, R19, R20, R21, R57, R115, R125, R134, R135, R140, R263	11	Chip resistor 0805 10Kohm-J	10Kohm			Any		Yes	Yes
R47, R48, R49, R50, R51, R52	6	Chip resistor 2512 15mohm-J	15mohm			SART	SMF25M2FR015T	Yes	Yes
R53, R54, R55	3	Chip resistor 0805 82Kohm-J	82Kohm			Any		Yes	Yes

R56, R58, R116	3	Chip resister 1206 5.1Kohm-J	5.1Kohm		Any		Yes	Yes
R59, R60, R61	3	Chip resister 0805 2.2Kohm-J	2.2Kohm		Any		Yes	Yes
R65, R66, R67	3	Chip resister 1206 750Kohm-J	750Kohm		Any		Yes	Yes
R87, R114	2	Chip resister 0805 4.75Kohm-J	4.75Kohm		Any		Yes	Yes
R88	1	Chip resister 0805 5.1Kohm-J	5.1Kohm		Any		Yes	Yes
R89	1	Chip resister 0805 820ohm-J	820ohm		Any		Yes	Yes
R93, R94, R95, R141, R142, R143	6	Chip resister 1206 330Kohm-J	330Kohm		Any		Yes	Yes
1, R104, R105, R119, R120, R123, R124, R132, R133, R137, R138, R139, R144	14	Chip resister 1206 4.7ohm-J	4.7ohm		Any		Yes	Yes
R126, R193, R194	3	Chip resister 0805 82ohm-J	82ohm		Any		Yes	Yes
R136	1	Chip resister 0805 200Kohm-J	200Kohm		Any		Yes	Yes
R139, R144	2	Chip resister 1206 10ohm-J	10ohm		Any		Yes	Yes
R150, R151	2	Chip resister 0805 3Kohm-J	3Kohm		Any		Yes	Yes
R152	1	Chip resister 0805 1.5Kohm-J	1.5Kohm		Any		Yes	Yes
R165, R166	2	Chip resister 1206 470Kohm-J	470Kohm		Any		Yes	Yes
RL1	1	RELAY 33A 250VAC			Panasonic	ALFG2PF121	Yes	Yes
RT1	1	NTC 5ohm D31			TDK	B57127P0509M301	Yes	Yes
RV1	1	Disk Varistor 320V D20			WURTH	820423211	Yes	Yes
RV1	1	Disk Varistor 320V D20			TDK	B72220P3321K101V87	Yes	Yes
RV1	1	Disk Varistor 320V D20			Littelfuse	V20E300AUTO	Yes	Yes
T150	1	Aux. Transformer EF20, 14-Pin, THT.			WURTH	750344692	Yes	Yes
U1, U160	2	IC Buck Switcher, 1.2 A, 2 MHz, SO8EP			ON Semiconductor	NCV890100PDR2G	No	Yes
U2, U3, U4	3	IC SiC MOSFET Driver, Low-Side, Single 6 A, QFN24			ON Semiconductor	NCP51705MNTXG	No	Yes
U5	1	IC Linear Voltage Regulator, 5V, 500mA, TO-252			ON Semiconductor	NCV78M05ABDTRKG	No	Yes
U6	1	IC Relay Driver, 24 V, SOT-23			ON Semiconductor	SZNUD3124LT1G	No	Yes
U9	1	IC Switching Regulator, - 4.7 Ohm/ 800 mA Ipk : 65 kHz, DIP7			ON Semiconductor	NCV1077P065G	No	Yes
U10, U120	2	IC Current Sense Amplifier, SC70-6			ON Semiconductor	NCV210RSQT2G	No	Yes
U11	1	IC Linear Voltage Regulator, 12V, 500mA, TO-252			ON Semiconductor	NCV78M12BDTRKG	No	Yes
U50	1	IC Photo Coupler High Temp, MFP-4L			ON Semiconductor	FODM8801C	No	Yes
U161	1	IC 3.3V Voltage Reference, SOT-23			ON Semiconductor	NCV51460SN33T1G	No	Yes
Filled in aluminum box. Mounted to heat sink.	1	Filled in aluminum box. Mounted to heat sink.			Magsonder	PTX6R6K-17025	Yes	Yes
Filled in aluminum box. Mounted to heat sink.	1	Filled in aluminum box. Mounted to heat sink.			Sunlord	ATWPPQ655462B200T	Yes	Yes