



Bill of Materials for the NCP5222 Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
U1	1	Dual-Channel / Two-Phase Synchronous Buck Controller	-	-	QFN28 (4x4mm)	ON Semiconductor	NCP5222MNR2G	NO	YES
M11, M21, Q1, Q2	4	Small Signal MOSFET, N-Channel	60 V, 115 mA	-	SOT-23	ON Semiconductor	2N7002LT1G	NO	YES
Q3	1	Small Signal MOSFET, N-Channel	30V, 270 mA	-	SC-70	ON Semiconductor	NTS4001NT1G	NO	YES
M12, M14, M22, M24	4	Power MOSFET, Single N-Channel	30 V, 58.5 A	-	SO-8 Flat Lead	ON Semiconductor	NTMFS4821NT1G	NO	YES
M13, M15, M23, M25	4	Power MOSFET, Single N-Channel	30 V, 85A	-	SO-8 Flat Lead	ON Semiconductor	NTMFS4847NT1G	NO	YES
M1	0	Power MOSFET, Single N-Channel	30 V, 191 A	-	SO-8 Flat Lead	ON Semiconductor	NTMFS4833NT1G	NO	YES
D1	1	Schottky Diode, dual, common anode	30V	-	SOT-23	ON Semiconductor	BAT54ALT1G	NO	YES
D12, D22	2	LED, SMT, 2mm, GRN	-	-	0805	PARA Light	L-0170GCT	YES	YES
C11, C21	2	MLCC Cap, Char: COG	50V, 22pF	5%	0603	TDK	C1608C0G1H220J	YES	YES
C12, C22	2	MLCC Cap, Char: COG	50V, 330pF	5%	0603	TDK	C1608C0G1H331J	YES	YES
C13, C23	2	MLCC Cap, Char: COG	50V, 820pF	5%	0603	TDK	C1608C0G1H821J	YES	YES
C1, C4	0	MLCC Cap, Char: COG	50V, 2.2nF	5%	0603	TDK	C1608C0G1H222J	YES	YES
C5	1	MLCC Cap, Char: COG	50V, 10nF	5%	0603	TDK	C1608C0G1H103J	YES	YES
C2	1	MLCC Cap, Char: X7R	50V, 15nF	10%	0603	TDK	C1608X7R1H153K	YES	YES
CB1, CB2, CS1, CS2	4	MLCC Cap, Char: X7R	50V, 0.1uF	10%	0603	TDK	C1608X7R1H104K	YES	YES
C3	1	MLCC Cap, Char: X5R	16V, 1uF	10%	0805	TDK	C2012X7R1C105K	YES	YES
C41	1	MLCC Cap, Char: X5R	6.3V, 3.3uF	10%	0603	TDK	C1608JB0J335KT	YES	YES
C6, C16, C26	0		-	-	0603			-	YES
C111, C222	2	MLCC Cap, Char: X5R	6.3V, 10uF	10%	0805	Panasonic	ECJ2FB0J106M	YES	YES
CIN1, CIN2, CIN3, CIN4	4	MLCC Cap, Char: X5R	25V, 10uF	20%	1812	TDK	C4532X7R1E106M	-	YES
C17 C18 C27 C28	4	SP-Capacitors, , ESR = 4.5mOhm	2V, 470uF	-	7.3mm x 4.3mm	Panasonic	EEFSX0D471XR	YES	YES
RB1, RB2	2	Thick Film Chip Resistors	3.3 Ω , 0.1 W	1%	0603	Panasonic	ERJ3BSF3R3V	YES	YES
R1, R5	2	Thick Film Chip Resistors	20 Ω , 0.1 W	1%	0603	Panasonic	ERJ3EKF20R0V	YES	YES
R13, R23	2	Thick Film Chip Resistors	100 Ω , 0.1 W	1%	0603	Panasonic	ERJ3EKF1000V	YES	YES
R18, R19	2	Thick Film Chip Resistors	1 k Ω , 0.1 W	1%	0603	Panasonic	ERJ3EKF1001V	YES	YES
R16, R26	2	Thick Film Chip Resistors	3.9 k Ω , 0.1 W	1%	0603	Panasonic	ERJ3EKF3901V	YES	YES
R11, R21	2	Thick Film Chip Resistors	5.1 k Ω , 0.1 W	1%	0603	Panasonic	ERJ3EKF5101V	YES	YES
R15, R25	2	Thick Film Chip Resistors	16 k Ω , 0.1 W	1%	0603	Panasonic	ERJ3EKF1602V	YES	YES
R14, R24	2	Thick Film Chip Resistors	16.2 k Ω , 0.1 W	1%	0603	WELWTN	PCF0603R 16K2BI	YES	YES
R9, R10	2	Thick Film Chip Resistors	39 k Ω , 0.1 W	1%	0603	Panasonic	ERJ3EKF3902V	YES	YES
R6, R7, R8, R20	4	Thick Film Chip Resistors	62 k Ω , 0.1 W	1%	0603	Panasonic	ERJ3EKF6202V	YES	YES
R12, R22	2	Thick Film Chip Resistors	91 k Ω , 0.1 W	1%	0603	Panasonic	ERJ3EKF9102V	YES	YES
R29, R30	2	Thick Film Chip Resistors	86.6 k Ω , 0.1W	1%	0603	WELWTN	PCF0603R 86K6BI	YES	YES
R2, R3, R28	3	Thick Film Chip Resistors	100 k Ω , 0.1 W	1%	0603	Panasonic	ERJ3EKF1003V	YES	YES
R4, R17, R27	0	-	-	-	0603	-	-	-	YES

L1, L2	2	Power Choke, DCR _{typ} =1.4mOhm, ISAT=22.9A	0.56uH	-	11.2mm x 10.0mm	TOKO	FDU1040D-R56M	YES	YES
TT1, TT2, TT3, TT4, TT00, TT01, TT21, TT22	8	PCB Terminal	-	-	7.54mm, f = 3.18mm	HARWIN	H-2121	YES	YES
TP11, TP12, TP13, TP14, TP21, TP22, TP23, TP24, JP1, JP2, JP4, JP5	17	THT Header Pitch = 2.54mm; Height = 12mm	-	-	-	RS Components	547-3302	YES	YES
T3, T4, T5, T6, J3				-				-	YES
J1, J2	2	SMB-Connectors, Impedance = 50W	-	-	-	RS Components	295-5665	YES	YES
SW1, SW2, SW 3, SW4	4	-	-	-	-	NKK	-	YES	YES