



Bill of Materials for the NCP1631PFCGEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
CM1	1	CM Filter, 4 A	2*6.8mH	4A/250V	through-hole	EPCOS	B82725-A2402-N1	NO	YES
C2	1	Electrolytic capacitor	100µF	450V	through-hole	BC Components	2.22216E+11	NO	YES
C5	1	X2 capacitor	100nF	275V	through-hole	RIFA	PHE840MB6100MB05R17	NO	YES
C6	1	X2 capacitor	1µF	275V	through-hole	RIFA	PHE840MD7100MD20R06L2	NO	YES
C10,C16	2	Y capacitor	4.7nF	275V	through-hole	Murata	DE1E3KX472MA5B	NO	YES
C15	1	Ceramic capacitor	220pF	5%, 50V	SMD, 1206	Various	Various	YES	YES
C18	1	X2 capacitor	680nF	275V	through-hole	EPCOS	B32923A2684M	NO	YES
C20	1	Ceramic capacitor	150nF	10%, 50V	SMD, 1206	Various	Various	YES	YES
C22,C27	2	Ceramic capacitor,	1nF	10%, 50V	SMD, 1206	Various	Various	YES	YES
C25	1	Ceramic capacitor	1µF	10%, 50V	SMD, 1206	Various	Various	YES	YES
C28	1	Ceramic capacitor,	220nF	10%, 50V	SMD, 1206	Various	Various	YES	YES
C30,C33	2	Ceramic capacitor	100nF	10%, 50V	SMD, 1206	Various	Various	YES	YES
C32	1	Electrolytic capacitor	100uF	25V	through-hole	Various	Various	YES	YES
C34	1	Ceramic capacitor	10nF	10%, 50V	SMD, 1206	Various	Various	YES	YES
D6, D14,D15	3	Diode	D1N4148		through-hole	Philips	1N4148	YES	YES
D3	1	LED 3mm	2.4V/2mA		through-hole	Vishay	TLLG4400	YES	YES
D4,D5	2	Boost diode	MUR550	5A, 500V	Axial	ON Semiconductor	MUR550APFG	NO	YES
D16	1	Standard recovery diode, 600 V	1N5406	3A, 600 V	Axial	ON Semiconductor	1N5406G	NO	YES
D21	1	Zener diode, 18 V	18V		through-hole	NXP	BZX79-C18	NO	YES
HS1	1	Heatsink, 2.9 °C/W	2.9 °C/W			AAVID THERMALLOY	437479	NO	YES
L4	1	DM Choke, WI-FI series	150µH/5A	20%, 5A	through-hole	Würth Electronics	7447076	NO	YES
Q1,Q2	2	PNP transistor	BC490G		TO92	ON Semiconductor	BC490G	NO	YES
R2, R6	2	Axial resistor, 1/4 W	1kW	1%	through-hole	Various	Various	YES	YES
R1	1	Axial resistor, 1/4 W	1.8kW	1%	through-hole	Various	Various	YES	YES
R7,R17	2	Axial resistor, 1/4 W	2.2W	1%	through-hole	Various	Various	YES	YES
R11, R20	3	SMD resistor, 1206, 1/4W	10kW	1%	SMD, 1206	Various	Various	YES	YES
R14,R15	2	SMD resistor, 1206, 1/4W	22kW	1%	SMD, 1206	Various	Various	YES	YES
R16,R21	2	Axial resistor, 1/4 W	0W	1%	through-hole	Various	Various	YES	YES
R18	1	Axial resistor, 1/4 W	560kW	1%	through-hole	Various	Various	YES	YES
R23	1	Axial resistor, 1/4 W	820kW	0.01	through-hole	Various	Various	YES	YES
R24	1	Axial resistor, 3 W, +/- 1%	50mW	0.01	through-hole	Vishay	RLP3 0R050	NO	YES
R25,R40	2	SMD resistor, 1206, 1/4W	27kW	0.01	SMD, 1206	Various	Various	YES	YES
R31,R32,R38, R39,R41,R42, R43, R44	8	Axial resistor, 1/4 W	1800kW	1%, 1/4W	through-hole	Various	Various	YES	YES
R33	1	SMD resistor, 1206, 1/4W	18kW	0.01	SMD, 1206	Various	Various	YES	YES
R34	1	SMD resistor, 1206, 1/4W	270kW	0.01	SMD, 1206	Various	Various	YES	YES
R36	1	SMD resistor, 1206, 1/4W	33kW	0.01	SMD, 1206	Various	Various	YES	YES
R37	1	SMD resistor, 1206, 1/4W	4.7kW	0.01	SMD, 1206	Various	Various	YES	YES
R45	1	SMD resistor, 1206, 1/4W	0W	0.01	SMD, 1206	Various	Various	YES	YES
R46	1	SMD resistor, 1206, 1/4W	120kW	0.01	SMD, 1206	Various	Various	YES	YES
R121,R122, R123	3	SMD resistor, 1206, 1/4W	680kW	0.01	SMD, 1206	Various	Various	YES	YES
U1	1	Diode Bridge	KBU6K			General Semiconductor	KBU6K	NO	YES
U2	1	Interleaved PFC controller, SOIC-16	NCP1631	-	SO16	ON Semiconductor	NCP1631	NO	YES

X1,X5	2	PFC coil	150μH	-		CME	OF9120	NO	YES
X4,X6	2	MOSFET	IPP50N250CP	550V	TO220	Infineon	IPP50N250CP, *substitutable only with isolated IPA50R250	YES*	YES
	2	TO220 isolators				Bergquist	3223-07FR-43	YES	YES
	5	Board "legs"				RICHCO	TCBS-801	YES	YES
F1	1	Fuse	4A Temporised	250V		Shurter	34.3123	YES	YES
VOUT	1	Connector	-	-		Multi Contact	23.3200-22	YES	YES
GND	1	Connector	-	-	-	Multi Contact	23.3200-21	YES	YES
J1	1	Connector	-	-	-	Schurter	GSF1.1201.31	YES	YES
J2	1	Connector	-	-	-	Weidmuller	PM 5.08/2/90 3.5 SW	YES	YES
DRV1	1	Test Point	-	-	through-hole	Keystone Electronics	Digi-Key# 5012K-ND	YES	YES
S4, S5	2	Soldered Connection	-	-	-	-	-	YES	YES
S1, S2, S3	0	Wire Jumpers, Not Populated	-	-	-	-	-	YES	YES