



## Bill of Materials for the NCP1654PFCGEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1, C2	2	Suppression Capacitor type X2	0.47 uF / 275 V type X2	10%	11mm x 31.3mm	VISHAY	F1772-447-2000	Yes	Yes
C3	1	Polypropylene Capacitor	0.1uF, 400V	5%	15.5mm x 6.5mm	Matsushita	ECWF4104JL	Yes	Yes
C4	1	Aluminum Electrolytic Capacitor	180 uF 450 V	20%	∅25mm	BC Components	2222 159 47181	Yes	Yes
C5	1	Dipped Radial Multilayer Ceramic Capacitor	0.22 uF / 50V	10%	5mm x 3.2mm	VISHAY	K224K20X7RF53H5	Yes	Yes
C7	1	Dipped Radial Multilayer Ceramic Capacitor	0.47 uF / 50V	10%	5mm x 3.2mm	VISHAY	K474K20X7RF53H5	Yes	Yes
C9	1	Dipped Radial Multilayer Ceramic Capacitor	0.1 uF / 50V	10%	4mm x 2.5mm	VISHAY	K104K15X7RF53H5	Yes	Yes
C6	1	Dipped Radial Multilayer Ceramic Capacitor	1 nF / 50 V	10%	4mm x 2.5mm	VISHAY	K102K15X7RF53H5	Yes	Yes
C10	1	Dipped Radial Multilayer Ceramic Capacitor	100 pF / 50 V	10%	4mm x 2.5mm	VISHAY	K101K15X7RF53H5	Yes	Yes
C8	1	Aluminum Capacitor	22 uF / 25 V	20%	∅5mm	BC Components	2222 013 36229	Yes	Yes
C12	1	Metallized Polyester Film Capacitor (MKT)	2.2 uF / 50 V	5%	7.8mm x 7.8mm	EPCOS	B32529D5225J	Yes	Yes
DB1	OPTION	Bridge Diode	600 V, 8.0 A	-	22.3mm x 3.6mm	VISHAY	GBU8J	Yes	Yes
D1	1	Soft Recovery Rectifier	8.0 A, 600 V	-	TO-220	ON Semiconductor	MSR860G	No	Yes
D2	1	Fast Switching Diode	300 mA, 100 V	-	DO-35	VISHAY	1N4148	Yes	Yes
F1	1	Time Delay Fuse	5 A Fuse	-	∅5.2mm	SCHURTER	0034.3124	Yes	Yes
IC1	1	CCM PFC Controller	-	-	SOIC-8	ON Semiconductor	NCP1654	No	Yes
L1	1	Power Inductor	650 uH	10%	45.5mm x 42.4mm	CoilCraft	GA3199-AL	Yes	Yes
L2	1	CM Choke	4 A, 2 x 6.8 mH	30%	21.5mm x 40.4mm	EPCOS	B82725-J2402-N20	Yes	Yes
L3	1	WE-FI Series, DM Choke	150 uH, 5A	20%	25mm x 13mm	Würth Elektronik	7447055	Yes	Yes
Q1	1	20 A 600 V MOSFET	-	-	P-TO220-3-1	Infineon	SPP20N60C3	Yes	Yes
R1, R2	2	Resistor, Axial Lead	1.8 MΩ, 1/4 W	1%	3.63mm x 1.57mm	VISHAY	CCF501M80FKE36	Yes	Yes
R9, R13	2	Resistor, Axial Lead	3.3 MΩ, 1/4 W	1%	3.63mm x 1.57mm	VISHAY	CCF503M30FKE36	Yes	Yes
R10	1	Jumper					Jumper	Yes	Yes
R3	1	Resistor, Axial Lead	23.2 kΩ, 1/4 W	1%	3.63mm x 1.57mm	VISHAY	CCF5023K2FKE36	Yes	Yes
R4	1	Resistor, Axial Lead	10 kΩ, 1/4 W	1%	3.63mm x 1.57mm	VISHAY	CCF5010K0FKE36	Yes	Yes
R5	1	Resistor, Axial Lead	10 Ω, 1/4 W	1%	3.63mm x 1.57mm	VISHAY	CCF5010R0FKE36	Yes	Yes
R6	1	Resistor, Axial Lead	0.1 Ω, 3 W	1%	14.2mm x 5.2mm	VISHAY	LVR03 R1000 F E12	Yes	Yes
R7	1	Resistor, Axial Lead	3.6 kΩ, 1/4 W	1%	3.63mm x 1.57mm	VISHAY	CCF503K60FKE36	Yes	Yes
R8	1	Resistor, Axial Lead	47 kΩ, 1/4 W	1%	3.63mm x 1.57mm	VISHAY	CCF5047K0FKE36	Yes	Yes
R11	1	Resistor, Axial Lead	82.5 kΩ, 1/4 W	1%	3.63mm x 1.57mm	VISHAY	CCF5082K5FKE36	Yes	Yes
R12	1	Resistor, Axial Lead	12 k, 1/4 W	1%	3.63mm x 1.57mm	VISHAY	CCF5012K0FKE36	Yes	Yes
TB1	1	AC Inlet Connector	-	-	34mm x 26.8mm	SCHURTER	GSF1.1201.31	Yes	Yes
TB2	1	DC Output Plug Socket	-	-	10mm x 9mm	IMO	20.101/2 (Order Code 3044531)	Yes	Yes
TB3	1	VCC Connector Plug Socket	-	-	5.1mm x 5.1mm	WEIDMULLER	PM5.08/2/90. (Order Code 5015571)	Yes	Yes
HS1	1	Heatsink(2.9°C/W)	-	-	-	Fischer Elektronik	SK481 100mm	Yes	Yes
Q1	1	Isolator TO-220	-	-	-	BERGQUIST	3223-07FR-43	Yes	Yes
D1	1	Isolator TO-220	-	-	-	BERGQUIST	3223-07FR-43	Yes	Yes
DB1	1	Clip for heatsink (TO-220)	-	-	-	Fischer Elektronik	THFU 1	Yes	Yes
Q1	1	Clip for heatsink (TO-220)	-	-	-	Fischer Elektronik	THFU 1	Yes	Yes
D1	1	Clip for heatsink (TO-220)	-	-	-	Fischer Elektronik	THFU 1	Yes	Yes
PCB	4	Board Legs	-	-	-	RICHCO	TCBS-801	Yes	Yes