



Bill of Materials for the NCP1653 Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
U2	1	Power Factor Controller	-	-	DIP8	ON Semiconductor	NCP1653PG	No	Yes
C1	1	Class X2 Capacitor	100 nF, 275 V	20%	Axial	Evox Rifa	PHE840MX6100M	No	Yes
C2	1	Electrolytic Capacitor	100 μ F, 450 V	20%	Radial	Vishay BC Components	2222 159 37101	No	Yes
C3, C7, C9	3	Polyester Film Capacitor	100 nF, 100 V	10%	Axial	AVX	BQ014E0104K	Yes	Yes
C4	1	Electrolytic Capacitor	47 μ F, 35 V	20%	Radial	Panasonic	ECA1VM470	Yes	Yes
C5, C6, C8	3	Polyester Film Capacitor	1 nF, 100 V	10%	Axial	AVX	BQ014E0102K	Yes	Yes
C11, C15	2	Class X2 Capacitor	1 μ F, 275 V	20%	Axial	Evox Rifa	PHE840MD7100M	No	Yes
C12, C13	2	Class Y2 Capacitor	4.7 nF, 250 V	20%	Disc	Vishay Roederstein	WYO472MCMCF0KR	Yes	Yes
R1	1	Axial Resistor	4.5 Ω , 1/4 W	1%	Axial	Panasonic	ERO-S2PHF4R53	Yes	Yes
R2	1	Axial Resistor	470 k Ω , 1/4 W	1%	Axial	Vishay Dale	CCF55470KFKE36	Yes	Yes
R3	1	Axial Resistor	56 k Ω , 1/4 W	1%	Axial	Vishay Dale	CCF5556K0FKE36	Yes	Yes
R4	1	Axial Resistor	4.7 M Ω 1/4 W	1%	Axial	Phoenix Passive Comp.	2306 242 64705	Yes	Yes
R5, R8	2	Axial Resistor	680 k Ω , 1/4 W	1%	Axial	Vishay Dale	CCF55680KFKE36	Yes	Yes
R6	1	Axial Resistor	2.8 k Ω , 1/4 W	1%	Axial	Vishay Dale	CCF552K80FKE36	Yes	Yes
R7	1	Axial Resistor	0.1 Ω , 1/4 W	1%	Axial	Vishay Sfernice	RLP3 0R10 1%	No	Yes
R9	1	Axial Resistor	560 k Ω , 1/4 W	1%	Axial	Vishay Dale	CCF55560KFKE36	Yes	Yes
R10	1	Axial Resistor	10 k Ω , 1/4 W	1%	Axial	Vishay Dale	CCF5510K0FKE36	Yes	Yes
R12	1	Strap (Short Circuit)	-	-	Through	-	-	Yes	Yes
L1	1	PFC Coil	600 μ H	-	-	Coilcraft	C1062-B	No	Yes
L4	1	DM Filter	150 μ H, 5 A	20%	Toroidal	Wurth Elektronik	7447055	No	Yes
CM1	1	CM Filter	2 x 6.8 mH, 4 A	30%	-	Epcos	B82725J2402N20	No	Yes
U1	1	Bridge Rectifier	6 A, 800 V	-	KBU	Vishay General Semi.	KBU6K	No	Yes
D1	1	Diode	600 V, 4 A	-	TO220	Cree	CSD04060A	No	Yes
M1	1	MOSFET	600 V, 20 A	-	TO220	Infineon	SPP20N60S5	No	Yes
H1	1	Heatsink	2.9 $^{\circ}$ C/W	-	-	Aavid Thermalloy	KM100-1	Yes	Yes
	4	Board Supports	-	-	-	Richco	TCBS-8-01	Yes	Yes
F1	1	Fuse	250 V, 4 A	-	-	Schurter	FTT 0034.5049	Yes	Yes
	2	Thermal Pad (TO220)	-	-	-	Bergquist	3223-07FR-43	Yes	Yes
	1	Heatsink Clip (TO218)	-	-	-	Aavid Thermalloy	4473	Yes	Yes
	2	Heatsink Clip (TO220)	-	-	-	Aavid Thermalloy	4426	Yes	Yes
CN1	1	AC Connector	-	-	-	Schurter	GSF1.1201.31	Yes	Yes
J1, GND	2	Terminal Block	-	-	pitch: 5mm	Weidmuller	1715250000	Yes	Yes
	3	Screws	-	-	-	-	MPMS 003 0008 PH		
STRAP	1	Strap (Short Circuit)	-	-	-	3M	923345-06-C	Yes	Yes