



Bill of Materials for the NCP1380BGEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1	1	Ceramic Capacitor, Axial, 1000V	1.5n	10%, 1000V	through-hole	Standard	Standard	Yes	Yes
C3	1	Ceramic Capacitor, Axial, 1000V	100pF	10%, 1000V	through-hole	Standard	Standard	Yes	Yes
C4	1	Ceramic capacitor, SMD, 50 V	100pF	10%, 50V	SMD1206	Standard	Standard	Yes	Yes
C5b,C5a	2	Electrolytic capacitor, 35 V	680uF	35V, 2.4 A	through-hole	RUBYCON	35ZL680M12.5X20	No	Yes
C5,C17,C22	3	Ceramic capacitor, SMD, 50 V	1nF	10%, 50 V	SMD1206	Standard	Standard	Yes	Yes
C7	1	Electrolytic capacitor, 35 V	100uF	20%, 35 V	through-hole	Standard	Standard	Yes	Yes
C12	1	Electrolytic capacitor, 35 V	220uF	20%, 35 V	through-hole	Standard	Standard	Yes	Yes
C8,C19	2	Ceramic capacitor, SMD, 50 V	220pF	10%, 50 V	SMD1206	Standard	Standard	Yes	Yes
C9	1	X2 capacitor, 305 V	330nF	305 V	through-hole	EPCOS	B32922D3334M784	No	Yes
C10	1	Ceramic capacitor, SMD, 50 V	47nF	10%, 50 V	SMD1206	Standard	Standard	Yes	Yes
C11	1	Electrolytic capacitor, 35 V	4.7u	20%, 35 V	through-hole	Standard	Standard	Yes	Yes
C14	1	Electrolytic capacitor, 400 V	100uF	400 V	through-hole	NICHICON	UCY2G101MHD	No	Yes
C15	1	Y1 capacitor, 250 V	2.2nF	250 V	through-hole	CERAMITE	440LD22	Yes	Yes
C18	1	X2 capacitor, 305 V	220nF	305 V	through-hole	EPCOS	B32922C3224M784	No	Yes
R17	1	Ceramic Capacitor, SMD, 50 V	100pF	10%, 50 V		Standard	Standard	Yes	Yes
C20	1	Ceramic capacitor, SMD, 50 V	100nF	10%, 50 V	SMD1206	Standard	Standard	Yes	Yes
C21	1	Ceramic capacitor, SMD, 50 V	68pF	10%, 50 V	SMD1207	Standard	Standard	Yes	Yes
D1,D5	2	Fast Recovery Diode, Axial, 1 A, 600 V	D1N4937	1 A, 600 V, DO-35	through-hole	ON Semiconductor	1N4937G	No	Yes
D2	1	Schottky Diode, TO-220, 20 A, 150 V	MBR20H150	20 A, 150 V, TO-220	through-hole	ON Semiconductor	MBRF20H150CTG	No	Yes
D3,D7,D9	3	Diode, Axial, 100 V	D1N4148	DO-35	through-hole	NXP	1N4148	Yes	Yes
D4,D10	1	Diode, SMD, 100 V	D1N4148	100 V	SOD-123	VISHAY	1N4148W	Yes	Yes
D6	1	18 V Zener Diode, Axial	zener	18 V, DO-35	through-hole	Standard	Standard	Yes	Yes
D8	1	Diode, SMD, 1A, 400 V	MRA4004	1 A, 400 V	SMB	ON Semiconductor	MRA4004T3G	No	Yes
HS1	1	Heatsink, 14 °C/W		14 °C/W	through-hole	SEIFERT	KL194/25.4SW	No	Yes
HS2	1	Heatsink, 8.2 °C/W		8.2°C/W	through-hole	SEIFERT	KL196/25.4SW	No	Yes
ISO1	1	Optocoupler SFH6156-2, SMD	SFH6156-2			VISHAY	SFH6156-2T	No	Yes
J1	1	Input Connector, 2.5 A, 260 V		2.5 A, 260 V	through-hole	MULTCOMP	JR-201S(PCB)	Yes	Yes
J2	1	Output Connector			through-hole	WEIDMULLER	PM5.08/2/90	Yes	Yes
J3	0	NOT CONNECTED							Yes
L1	1	Common Mode Choke, 2*10 mH, 2 A	10mH	2A	through-hole	WURTH	744823210	No	Yes
L3	1	Radial Coil, 2.2 uH, 6 A, 20%	2.2uH	6 A, 20%	through-hole	WURTH	744772022	No	Yes
M1	1	MOSFET, 600 V, 7 A	IPP60R385	7 A, 600 V	TO-220	INFINEON	IPP60R385CP	No	Yes
Q1	1	PNP transistor, SMD	BC857		SOT23	ON Semiconductor	BC857ALT1G	Yes	Yes
R2,R24	2	Ceramic Resistor, SMD, 1W, 1%, 50 V	0.47Ω	1 W, 1%	SMD2512	Standard	Standard	Yes	Yes
R3, R21	2	Ceramic Resistor, SMD, 0.25 W, 50 V	47kΩ		SMD1206	Standard	Standard	Yes	Yes
R4,R6	2	Resistor, Axial, 3 W, 5%	18kΩ	3 W, 5%		Standard	Standard	Yes	Yes
R5	1	Ceramic Resistor, SMD, 0.25W, 50 V	27kΩ	5%	SMD1206	Standard	Standard	Yes	Yes
R7	1	Ceramic Resistor, SMD, 0.25W, 50 V	39kΩ	5%	SMD1206	Standard	Standard	Yes	Yes
R8	1	Ceramic Resistor, SMD, 0.25W, 50 V	10kΩ	5%	SMD1206	Standard	Standard	Yes	Yes
R9,R13,R29	6	Ceramic Resistor, SMD, 0.25W, 50 V	1kΩ	5%	SMD1206	Standard	Standard	Yes	Yes
R30, R31, R32	3	Ceramic Resistor, SMD, 0.25W, 200 V	1MΩ	5%	SMD1206	Standard	Standard	Yes	Yes

R12	1	Resistor, Axial, 1 W, 1%	10Ω	1%	through-hole	Standard	Standard	Yes	Yes
R14	1	Ceramic Resistor, SMD, 0.25W, 50 V	220kΩ	5%	SMD1206	Standard	Standard	Yes	Yes
R15	0	NOT CONNECTED							Yes
R16	1	Ceramic Resistor, SMD, 0.25W, 50 V	10Ω	5%	SMD1206	Standard	Standard	Yes	Yes
R18	1	Resistor, Axial, 0.25 W, 1%	1kΩ	1%	through-hole	Standard	Standard	Yes	Yes
R19	1	NTC, 100 kΩ at 25°C, Beta = 4190			through-hole	VISHAY	NTCLE100E3104JB0	No	Yes
R20	1	Ceramic Resistor, SMD, 0.25W, 50 V	2.2kΩ	5%	SMD1206	Standard	Standard	Yes	Yes
R22	1	Resistor, Axial, 0.25 W, 1%	510kΩ	1%	through-hole	Standard	Standard	Yes	Yes
R23	0	NOT CONNECTED							Yes
R25,R33	0	NOT CONNECTED							Yes
R26	1	Resistor, Axial, 0.25 W, 1%	680kΩ	1%	through-hole	Standard	Standard	Yes	Yes
R28	1	Ceramic Resistor, SMD, 0.25W, 50 V	47Ω	5%	SMD1206	Standard	Standard	Yes	Yes
R34	1	Ceramic Resistor, SMD, 0.25W, 50 V	1.2kΩ	5%	SMD1206	Standard	Standard	Yes	Yes
S11	1	PCB switch to be soldered							Yes
U1	1	QR Transformer			through-hole	CME	17212	No	Yes
X2	1	QR controller	NCP1380B		SOIC-8	ON Semiconductor	NCP1380B	No	Yes
X5	1	Shunt Regulator, 2.5 - 36 V, 1 - 100 mA	TL431	TO-92	through-hole	ON Semiconductor	TL431CLOG	Yes	Yes
X18	1	Diode Bridge, 4 A, 800 V	KBU4K		through-hole	MULTICOMP	KBU4K	No	Yes