



Bill of Materials for the NCP1236B65NBGEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1	1	Electrolytic Capacitor	47 µF / 50 V	20%	Radial	Koshin	KLH-050V470ME110	Yes	Yes
C100, C103	2	Ceramic Capacitor	100 nF	10%	1206	Kemet	C1206C104K5RAC	Yes	Yes
C101, C104	2	Ceramic Capacitor	NU	-	1206	-	-	Yes	Yes
C102, C106	2	Ceramic Capacitor	1.0 nF	10%	1206	Kemet	C1206C102K5RAC	Yes	Yes
C105, C107	2	Ceramic Capacitor	33 nF	10%	1206	Kemet	C1206C33K5RAC	Yes	Yes
C2	1	Ceramic Capacitor	5.6 nF / 630 V	5%	Radial	TDK Corporation	FK20C0G2J562J	Yes	Yes
C3	1	Ceramic Capacitor	1.2 nF / 630 V	5%	Radial	TDK Corporation	FK26C0G2J122J	Yes	Yes
CB1	1	Bulk Capacitor	100 µF / 400 V	20%	Through Hole	United Chemi-Con	EKXG401ELLI01MMN3S	Yes	Yes
COUT1, COUT2, COUT3	3	Electrolytic Capacitor	470 µF / 25 V	20%	Radial	Panasonic - ECG	ECA-1EHG471	Yes	Yes
CX1, CX2	2	Suppression Film Capacitors	100 nF	10%	Through Hole	Epcos	B32922C3104K	No	Yes
CY1, CY2, CY3	3	Ceramic Capacitor	2.2 nF / X1 / Y1	20%	Disc - Radial	Murata	DE1E3KX222MA5B	Yes	Yes
D1	1	Standard Recovery Rectifier	1N4007	-	DO41-10B	ON Semiconductor	1N4007G	No	Yes
D100, D102, D103, D104, D105, D108, D109	7	Standard Recovery Rectifier	MRA4007T3G	-	SMA	ON Semiconductor	MRA4007T3G	No	Yes
D101, D107	2	Diode	MMSD4148	-	SOD123	ON Semiconductor	MMSD4148T3G	No	Yes
D106	1	Zener diode	MMSZ15	5%	SOD123	ON Semiconductor	MMSZ15T3G	No	Yes
D2	1	Diode Schottky 150 V 15 A	NTST30100SG	-	TO220	ON Semiconductor	NTST30100SG	No	Yes
F1	1	Fuse (MST ser.)	1.6 A	-	Through Hole	Schurter Inc	34.6617	Yes	Yes
IC1	1	Programmable Precision Reference	TL431	-	TO-92	ON Semiconductor	TL431BCLPG	No	Yes
IC100	1	SMPS Controller	NCP1236B65	-	SOIC-08	ON Semiconductor	NCP1236BD65R2G	No	Yes
L1	1	Inductor	744 841 414	-	744 841 414	Würth Elektronik	744 841 414	No	Yes
L2	1	Inductor	2 x 20 mH / 2 A	-	B82734W	Epcos	B82734W2202B030	No	Yes
L3	1	Inductor	10 µH	10%	DR0810	Coilcraft	DR0810-103L	No	Yes
L4	1	Inductor	744 841 330	-	744 841 330	Würth Elektronik	744 841 330	No	Yes
NTC	1	Sensing NTC Thermistor	330 kΩ	5%	Disc - Radial	Vishay	NTCLE100E3334JB0	Yes	Yes
OK1	1	Optocoupler	PC817	-	4-DIP	Sharp	PC817X21000F	Yes	Yes
Q1	1	N MOSFET Transistor	SPP11N60C3	-	TO220	Infineon	SPP11N60C3	Yes	Yes
R1	1	Resistor Through Hole, High Voltage	4.7 MΩ	5%	Axial Lead	Welwyn	VRW37-4M7J1	Yes	Yes
R100, R101	2	Resistor SMD	2.7 kΩ	1%	1206	Rohm	MCR18EZHF2701	Yes	Yes
R102	1	Resistor SMD	33 kΩ	1%	1206	Rohm	MCR18EZHF3302	Yes	Yes
R103, R117	2	Resistor SMD	2.2 Ω	1%	1206	Rohm	MCR18EZHF22R20	Yes	Yes
R104	1	Resistor SMD	2.2 kΩ	1%	1206	Rohm	MCR18EZHF2201	Yes	Yes
R105	1	Resistor SMD	8.2 kΩ	1%	1206	Rohm	MCR18EZHF8201	Yes	Yes
R106	1	Resistor SMD	6.2 kΩ	1%	1206	Rohm	MCR18EZHF6201	Yes	Yes
R107, R108, R111, R113	4	Resistor SMD	1.0 Ω	1%	1206	Rohm	MCR18EZHF1R00	Yes	Yes
R109	1	Resistor SMD	3.9 kΩ	1%	1206	Rohm	MCR18EZHF3901	Yes	Yes
R110	2	Resistor SMD	5.6 kΩ	1%	1206	Rohm	MCR18EZHF1001	Yes	Yes
R112	2	Resistor SMD	1.0 kΩ	1%	1206	Rohm	MCR18EZHF1001	Yes	Yes
R114	1	Resistor SMD	22 Ω	1%	1206	Rohm	MCR18EZHF22R0	Yes	Yes
R115	1	Resistor SMD	680 Ω	1%	1206	Rohm	MCR18EZPF6800	Yes	Yes
R116	1	Resistor SMD	10 kΩ	1%	1206	Vishay	MCR18EZHF1002	Yes	Yes
R2	1	Resistor	2.2 Ω	1%	207	Vishay	MBB02070C2208FRP00	Yes	Yes
R3, R4	2	Resistor	330 kΩ	1%	207	Vishay	HVR2500003303FR500	Yes	Yes
R5	1	Surge protecting varistor	B72210P2301K101	20%	Disc - Radial	Epcos	B72210P2301K101	No	Yes
R6	1	Resistor	15 Ω	1%	207	Vishay	MRS25000C1509FRP00	Yes	Yes
R7	1	Jumper	-	-	-	-	-	Yes	Yes
RD100, RD101, RD102	3	Resistor SMD	820 kΩ	1%	1206	Rohm	MCR18EZHF8203	Yes	Yes
TR1	1	Transformer	KA5038-BL	-	KA5038-BL	CoilCraft	KA5038-BL	No	Yes
X1	1	Terminal Block, 2 Way	CTB5000/2	-	W237-102	Cadem EL	CTB5000/2	Yes	Yes
X2	1	Terminal Block, 3 Way	CTB5000/3	-	W237-113	Cadem EL	CTB5000/3	Yes	Yes

**Place a thermal pad (part number BER207-ND) under Q1 and D2 to isolate the heat sink

**Put the jumper insulated with Teflon tubing near the heat sink