



Bill of Materials for the NCP1399ADPGEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
B1	1	Bridge Rectifier	KBJ608G	-	KBJ608G	Diodes Incorporated	KBJ608G	Yes	Yes
C1, C4	2	MKP Film Capacitors	1 uF/450 Vdc	10%	Through Hole	Panasonic	667-ECW-FD2W105J4	Yes	Yes
C111	1	Ceramic Capacitor	820 p	10%	0603	Kemet	C0603C821K3RACTU	Yes	Yes
C14	1	Electrolytic capacitor	NU	-	Through Hole	-	-	Yes	Yes
C16	1	Electrolytic capacitor	120 uF/420 V	20%	Through Hole	Rubycon	420CXW120MEFR16x35	Yes	Yes
C17, C29	2	Ceramic Capacitor	220 pF/1 kV	20%	Through Hole	Vishay	S221M39SL0N63K7R	Yes	Yes
C18	1	Film Capacitors	33 nF/1 kVdc	5%	Through Hole	EPCOS / TDK	B32652A0333J000	Yes	Yes
C2, C30, C57	3	Ceramic Capacitor	10 n	10%	0603	Kemet	C0603C103K3RACTU	Yes	Yes
C26	1	Ceramic Capacitor	2.2 n	10%	0603	Kemet	C0603C222K3RACTU	Yes	Yes
C3	1	Electrolytic capacitor	220 uF/35 V	20%	Through Hole	PANASONIC	EEU-FM1V221L	Yes	Yes
C31	1	Ceramic Capacitor	2.2 uF/25 V	10%	0805	Kemet	C0805C225K3RAC7800	Yes	Yes
C32	1	Ceramic Capacitor	6.8 n	10%	0603	Kemet	C0603C682K3RACTU	Yes	Yes
C34	1	Ceramic Capacitor	12 n	10%	0603	Kemet	C0603C123K3RACTU	Yes	Yes
C36, C109	2	Ceramic Capacitor	1u	10%	0603	Kemet	C0603C105K3RACTU	Yes	Yes
C37	1	Electrolytic capacitor	47 u/25 V	20%	Through Hole	PANASONIC	ECA-1EHG470	Yes	Yes
C40, C41, C53, C54	4	Ceramic Capacitor	100 n	10%	0603	Kemet	C0603C104K3RACTU	Yes	Yes
C44	1	Ceramic Capacitor	100 p	10%	0603	Kemet	C0603C101K3RACTU	Yes	Yes
C46	1	Ceramic Capacitor	5.6 p	10%	0603	Kemet	C0603C150K5GACTU	Yes	Yes
C47	1	MKP Film Capacitors	330 nF/310 Vac	10%	Through Hole	Würth Elektronik	890334024003	Yes	Yes
C5	1	Ceramic Capacitor	100 nF	10%	0805	Kemet	C0805C104K5RACTU	Yes	Yes
C50, C52, C62, C106, C107, C108, C110	7	Ceramic Capacitor	NU	-	0603	-	-	Yes	Yes
C6	1	Ceramic Capacitor	2.2 uF	10%	1206	Kemet	C1206C222K5RACTU	Yes	Yes
C7, C12, C19	3	Ceramic Capacitor	NU	-	1206	-	-	Yes	Yes
C8, C9, C10, C11	4	Electrolytic capacitor	680 u/25 V	20%	Through Hole	Würth Elektronik	860020475016	Yes	Yes
CY3	1	Ceramic Capacitor	680 p/Y1	10%	Through Hole	Murata	DE1B3KX681KN4AP01F	Yes	Yes
D1, D8	2	Power rectifier Diode	MRA4007	-	SMA	ON Semiconductor	MRA4007T3G	No	Yes
D10, D12, D13, D105, D112	5	Diode	NU	-	SOD323	-	-	Yes	Yes
D2	1	Zener Diode	15V	5%	SOD-123	ON Semiconductor	MMSZ15T1G	No	Yes
D23	1	Ultrafast Power Rectifier Diode	MURA160	-	SMA	ON Semiconductor	MURA160T3G	No	Yes
D3, D6	2	Schottky Power Rectifier Diode	MBR2H200SF	-	SOD-123	ON Semiconductor	MBR2H200SF13G	No	Yes
D4	1	Zener Diode	15V	5%	SOD-123	ON Semiconductor	MMSZ22T1G	No	Yes
D5	1	Ultra-Fast Recovery	MUR460	-	TO220 (2 LEAD)	ON Semiconductor	MUR460RLG	No	Yes
D7, D26	2	Switching Diode	MMDL914	-	SOD323	ON Semiconductor	MMDL914T1G	No	Yes
F2	1	FUSE	T4A	-	Through Hole	Bussmann / Eaton	SS-5H-4A-BK	Yes	Yes
IC1	1	X2 Capacitor Discharger	NCP4810	-	SOIC-8	ON Semiconductor	NCP4810DR2G	No	Yes
IC101	1	Secondary Side Sleep mode Controller	NCP4354A	-	SOIC-8	ON Semiconductor	NCP4354ADR2G	No	Yes
IC3	1	Resonant Mode Controller	NCP1399	-	SOIC-16	ON Semiconductor	NCP1399_DR2G	No	Yes
IC8	1	Power Factor Controller	NCP1602	-	TSOP-6	ON Semiconductor	NCP1602DCCSNT1G	No	Yes
L1	1	Inductor	LC9-166	20%	T10*6*5C K08	JEPULS	LC9-166 (150311600)	Yes	Yes
L2	1	Emi Filter	LC16-171	20%	T16*12*8C	JEPULS	LC16-171 (150311400)	Yes	Yes
L3	1	Resonant Inductor	BCK1601-268	10%	EE16/12/7	JEPULS	BCK1601-268 (150040300)	Yes	Yes
L4	1	PFC Inductor	PG2614 (255 uH)	10%	PQ2614	Global Choice International LLC	6142516090	Yes	Yes
L5	1	Emi Filter	LC13-121	20%	T50-26B	JEPULS	LC13-121 (150311500)	Yes	Yes
L8	1	Emi Filter	LC12-058	20%	T12*6*4C	JEPULS	LC12-058 (150311300)	Yes	Yes
M1	1	SR Daughtercard	-	-	-	ON Semiconductor	-	NO	Yes

NTC1	1	Thermistor	330k	-	Through Hole	Vishay	NTCLE100E3334JB0	Yes	Yes
OK1, OK2	2	Opto Coupler	TCLT1008	-	DIL4-SMD	Vishay	TCLT1008	Yes	Yes
Q1	1	N-Channel Power MOSFET	STP20NM60FP	-	TO-220	ST Microelectronics	STP20NM60FP	Yes	Yes
Q10, Q100	2	PNP Transistor	NU	-	SOT-23	-	-	Yes	Yes
Q2, Q3	2	N-Channel Power MOSFET	STP12NM50FP	-	TO-220	ST Microelectronics	STP12NM50FP	Yes	Yes
Q4	1	PNP General Purpose Transistor	BC807	-	SOT-23	ON Semiconductor	BC807-16LT1G	No	Yes
Q6	1	N-Channel Small Signal MOSFET	BSS138	-	SOT-23	ON Semiconductor	BSS138LT1G	No	Yes
Q8	1	N-Channel MOSFET	NU	-	SOT-23	-	-	Yes	Yes
R1, R16, R43, R53	4	Resistor SMD	360 k	1%	1206	Rohm Semiconductor	MCR18ERTJ364	Yes	Yes
R100	1	Resistor SMD	10 R	1%	0805	Rohm Semiconductor	MCR10EZPF10R0	Yes	Yes
R101, R102	2	Resistor SMD	150 k	1%	0805	Rohm Semiconductor	MCR10EZPF1503	Yes	Yes
R11, R38	2	Power Resistor	0.05 R/2 W	1%	Through Hole	WLCR050FET	Ohmite	Yes	Yes
R118	1	Resistor SMD	4.3 k	1%	0603	Rohm Semiconductor	MCR03ERTF4301	Yes	Yes
R12	1	Resistor SMD	1 R	1%	0603	Rohm Semiconductor	MCR03ERTFL1R00	Yes	Yes
R123	1	Resistor SMD	220 R	1%	0603	Rohm Semiconductor	MCR03ERTF2200	Yes	Yes
R126	1	Resistor SMD	5.1 k	1%	0603	Rohm Semiconductor	MCR03ERTF5101	Yes	Yes
R127	1	Resistor SMD	15 k	1%	0603	Rohm Semiconductor	MCR03ERTF1502	Yes	Yes
R128	1	Resistor SMD	150 k	1%	0603	Rohm Semiconductor	MCR03ERTF1503	Yes	Yes
R129	1	Resistor SMD	36 k	1%	0603	Rohm Semiconductor	MCR03ERTF3602	Yes	Yes
R13, R30, R116, R149	4	Resistor SMD	0 R	1%	0603	Rohm Semiconductor	MCR03EZPJ000	Yes	Yes
R130	1	Resistor SMD	24 k	1%	0603	Rohm Semiconductor	MCR03ERTF2402	Yes	Yes
R133	1	Resistor SMD	390 k	1%	0603	Rohm Semiconductor	MCR03ERTF3903	Yes	Yes
R134	1	Resistor SMD	2.7 Meg	5%	1206	Rohm Semiconductor	MCR18ERTJ275	Yes	Yes
R135	1	Resistor SMD	3 Meg	5%	1206	Rohm Semiconductor	MCR18ERTJ305	Yes	Yes
R14, R15, R21, R45, R58, R62, R104, R120, R121, R124, R125, R131	12	Resistor SMD	NU	-	0603	-	-	Yes	Yes
R148	1	Resistor SMD	1.5 k	1%	0603	Rohm Semiconductor	MCR03ERTF1501	Yes	Yes
R17, R28, R34, R46	4	Resistor SMD	1.8 Meg	5%	0805	Rohm Semiconductor	MCR25JZHJ185	Yes	Yes
R18	1	Resistor SMD	1.1 k	1%	0603	Rohm Semiconductor	MCR03ERTF1101	Yes	Yes
R19	1	Resistor SMD	10 R	1%	1206	Rohm Semiconductor	MCR18ERTJ100	Yes	Yes
R2, R3, R7, R8, R9	5	Resistor SMD	10 Meg	5%	1206	Rohm Semiconductor	MCR18ERTJ106	Yes	Yes
R20, R23, R29, R32	4	Resistor SMD	0 R	-	1206	Rohm Semiconductor	MCR18EZHJ000	Yes	Yes
R22	1	Resistor SMD	2.7 k	1%	0603	Rohm Semiconductor	MCR03ERTF2701	Yes	Yes
R24, R96	2	Resistor SMD	0 R	-	0805	Rohm Semiconductor	MCR10EZPJ000	Yes	Yes
R25, R54, R55	3	Resistor SMD	10 R	1%	0603	Rohm Semiconductor	MCR03ERTF10R0	Yes	Yes
R26	1	Resistor SMD	2.2 R	5%	0603	Rohm Semiconductor	MCR03ERTJ2R2	Yes	Yes
R27, R150	2	Resistor SMD	5.6 R	5%	0805	Rohm Semiconductor	MCR10EZHJ5R6	Yes	Yes
R33	1	Resistor SMD	10 k	1%	0603	Rohm Semiconductor	MCR03ERTF1002	Yes	Yes
R4, R82	2	Resistor SMD	68 k	1%	0603	Rohm Semiconductor	MCR03ERTF6802	Yes	Yes
R44	1	Resistor SMD	0 R	-	wire strap	-	-	Yes	Yes
R48	1	VARISTOR	275 Vac	1%	Through Hole	Würth Elektronik	820512711	Yes	Yes
R5, R6, R10	3	Resistor SMD	1.8 Meg	5%	0805	Rohm Semiconductor	MCR25JZHJ185	Yes	Yes
R64	1	Resistor SMD	100 R	1%	1206	Rohm Semiconductor	MCR18ERTF1000	Yes	Yes
R65	1	Resistor SMD	200 k	1%	0603	Rohm Semiconductor	MCR03ERTF2003	Yes	Yes
R67, R103, R117	3	Resistor SMD	13 k	1%	0603	Rohm Semiconductor	MCR03ERTF1302	Yes	Yes
R75, R132	2	Resistor SMD	82 k	1%	0603	Rohm Semiconductor	MCR03ERTF8202	Yes	Yes
R81	1	Resistor SMD	43 k	1%	0603	Rohm Semiconductor	MCR03ERTF4302	Yes	Yes
R84, R119, R105	3	Resistor SMD	1 k	1%	0603	Rohm Semiconductor	MCR03ERTF1001	Yes	Yes

R87, R92	2	Resistor SMD	2.7 k	1%	1206	Rohm Semiconductor	MCR18ERTF2701	Yes	Yes
TR1	1	Transformer	POT33 (1 mH)	5%	POT33	Global Choice International LLC	POT331026037	Yes	Yes
SR Daughtercard									
C1, C4	2	Ceramic Capacitor	100 nF	10%	0805	Kemet	C0805C104K5RACTU	Yes	Yes
C2, C3, C5, C6	4	Ceramic Capacitor	470n/35V	10%	0805	Taiyo Yuden	GMK212BJ474KG-T	Yes	Yes
C7	1	Ceramic Capacitor	22n	10%	0603	Kemet	C0603C223K3RACTU	Yes	Yes
C8	1	Ceramic Capacitor	NU	-	0603	-	-	Yes	Yes
C9, C10	2	Ceramic Capacitor	3.9 nF	10%	0805	Kemet	C0805C392K5RACTU	Yes	Yes
D1, D2	2	Switching Diode	BAS20HT1G	-	SOD323	ON Semiconductor	BAS20HT1G	No	Yes
IC1, IC2	2	Secondary Side Synchronous Rectifier	NCP4305	-	WDFN-8	ON Semiconductor	NCP4305DMNTWG	No	Yes
Q1, Q2	2	N-Channel Power MOSFET	NTMFS5C646NL	-	SO-8FL	ON Semiconductor	NTMFS5C646NLT1G	No	Yes
R1, R4	2	Resistor SMD	20R	1%	0603	Rohm Semiconductor	MCR03ERTF20R0	Yes	Yes
R10, R11	2	Resistor SMD	15 R	1%	1206	Rohm Semiconductor	MCR18ERTF15R0	Yes	Yes
R2, R5	2	Resistor SMD	22k	1%	0603	Rohm Semiconductor	MCR03ERTF2202	Yes	Yes
R3, R6	2	Resistor SMD	4.7 k	1%	0603	Rohm Semiconductor	MCR03ERTF4701	Yes	Yes
R7	1	Resistor SMD	10k	1%	0603	Rohm Semiconductor	MCR03ERTF1002	Yes	Yes
R8	1	Resistor SMD	0R	1%	0603	Rohm Semiconductor	MCR03EZPJ000	Yes	Yes
R9	1	Resistor SMD	1k	1%	0603	Rohm Semiconductor	MCR03ERTF1001	Yes	Yes