



Bill of Materials for the NCP13992MM240WGEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
Main Board									
C101, C102	2	CAPACITOR	220nF/275V~		C102-064X133	Wurth	890324024002	No	Yes
C103	1	CAPACITOR	470nF/450Vdc		C150-072X183	Panasonic	ECW-FD2W474J	No	Yes
C104	1	MPP CAPACITOR	1uF/450Vdc		C150-072X183	Panasonic	ECW-FE2W105J	No	Yes
C105	1	CAPACITOR	2.2nF/250V		C0805	Wurth	885342007005	No	Yes
C106	1	CAPACITOR	22nF/200V		C0805	Wurth	885342207006	No	Yes
C107, C201, C202	3	CAPACITOR Electrolytic	100u/450V		EC_18X30_7.5	United Chemi-Con	EKXL451ELL101MM30S	Yes	Yes
C108	1	CAPACITOR	220pF/50V		C0805	Wurth	885012007059	Yes	Yes
C109, C220	2	CAPACITOR	470pF/50V		C0805	Wurth	885012007061	Yes	Yes
C110, C233	2	CAPACITOR	2.2nF/50V		C0805	Wurth	885012007065	Yes	Yes
C111, C224	2	CAPACITOR	1uF/50V		C0805	Wurth	885012207103	Yes	Yes
C112, C115, C218, C219, C221, C222	6	CAPACITOR	10nF/50V		C0805	Wurth	885012207092	Yes	Yes
C113, C225	2	CAPACITOR Electrolytic	220uF/25V		E3.5-8	Wurth	860040474004	Yes	Yes
C114	1	CAPACITOR	15pF/50V		C0805	Wurth	885012007052	Yes	Yes
C116	1	CAPACITOR	4.7nF/50V		C0805	Wurth	885012007067	Yes	Yes
C203, C217, C223, C235, C236	3	CAPACITOR	100nF/50V		C0805	Wurth	885012207098	Yes	Yes
C204	1	CAPACITOR	100nF/50V		C1206	Wurth	885012208087	Yes	Yes
C205, C206	2	CAPACITOR	33nF/630V		C150-064X183	Epcos	B32652A6333J	Yes	Yes
C207	1	CAPACITOR Electrolytic	220uF/35V		E3.5-8	Wurth	860010574011	Yes	Yes
C208, C209	2	CAPACITOR	6.8nF/100V		C0805	Wurth	885012207121	Yes	Yes
C210, C211	2	CAPACITOR	2.2uF/16V		C0603	Wurth	885012106018	Yes	Yes
C212, C213, C214, C215, C216	5	CAPACITOR POLYMER	1.2mF/16V		E3.5-8	United Chemi-Con	APSG160ELL122MH20S	No	Yes
C227, C228	2	CAPACITOR	220pF/630V NPO		C1206	KEMET	C1206C221JBGCAUTO	No	Yes
C229	1	CAPACITOR	4.7nF/50V/NP0		C0805	Wurth	885012007067	No	Yes
CY101, CY102, CY201	3	Y CAPACITOR	2.2nF/Y1		YC10B5	Murata	DE1E3KX222MN4AP01F	No	Yes
F101	1	FUSE	5A/ 350V SLOW		0697H	Bel Fuse	0697H5000-01	Yes	Yes
L101	1	COMMON MODE INDUCTOR	10mH		LF-280XX	ICE COMPONENTS	LF-28024-0048-H	No	Yes
L102, L103	2	DIF. MODE INDUCTOR	90uH		TO18	Wurth	7447013	No	Yes
L104	1	PFC INDUCTOR	260uH		PQ32/20-4	Sumida	T91869	7503150361	Yes
L201	1	Resonant inductor	50uH		RM8	Sumida	T91870	750370249	Yes
L202	1	POWER FERRITE BEAD	1 turn		FERRITE BEAD 09X05	Wurth	74270033	No	Yes
NTC201	1	NTC	330k, 5%		THT	Vishay	NTCLE100E3334JB0	Yes	Yes

R101	1	VARISTOR	275 VAC		LITTELFUSE	Littelfuse	V430CH8S	No	Yes
R102	1	PTC THERMISTOR	STRAP		N/A	N/A	N/A	Yes	Yes
R103	1	RESISTOR	10R		R0603	VARIOUS	VARIOUS	Yes	Yes
R104, R205, R233, R236, R238, R247	6	RESISTOR	0R		R0805	VARIOUS	VARIOUS	Yes	Yes
R105, R119	2	RESISTOR	1.1k		R0805	VARIOUS	VARIOUS	Yes	Yes
R106, R107	2	RESISTOR	62m / 2W		R6332W	TE Connectivity / Holsworth	RLP73N3AR062JTE	Yes	Yes
R108, R203, R204, R206	4	RESISTOR	22k		R0805	VARIOUS	VARIOUS	Yes	Yes
R109	1	RESISTOR	300R		R0805	VARIOUS	VARIOUS	Yes	Yes
R110	1	RESISTOR	2.2R		R0805	VARIOUS	VARIOUS	Yes	Yes
R111	1	RESISTOR	22R		R0805	VARIOUS	VARIOUS	Yes	Yes
R112	1	RESISTOR	160k		R0805	VARIOUS	VARIOUS	Yes	Yes
R113, R114, R115, R116	4	RESISTOR	2.7M 1%		R0805	ROHM Semiconductor	KTR18EZPF2704	Yes	Yes
R118, R121, R218, R220	4	RESISTOR	1k		R1206	VARIOUS	VARIOUS	Yes	Yes
R120, R237	2	RESISTOR	68k		R0805	TE Connectivity / Holsworth	CRGCO0805F68K	Yes	Yes
R122	1	RESISTOR	2k		R0805	VARIOUS	VARIOUS	Yes	Yes
R123, R241	2	RESISTOR	11k		R0805	VARIOUS	VARIOUS	Yes	Yes
R124, R221, R225	3	RESISTOR	10k		R0805	VARIOUS	VARIOUS	Yes	Yes
R201, R202	2	RESISTOR	33R		R0805	VARIOUS	VARIOUS	Yes	Yes
R207, R208	2	RESISTOR	2R		R1206	VARIOUS	VARIOUS	Yes	Yes
R209, R210	2	RESISTOR	27R		R1206	VARIOUS	VARIOUS	Yes	Yes
R211, R216	2	RESISTOR	5.1R		R0603	VARIOUS	VARIOUS	Yes	Yes
R212, R215	2	RESISTOR	36k		R0603	VARIOUS	VARIOUS	Yes	Yes
R213, R214	2	RESISTOR	5.6k		R0603	VARIOUS	VARIOUS	Yes	Yes
R217	1	RESISTOR	82k		R0805	VARIOUS	VARIOUS	Yes	Yes
R222, R245	2	RESISTOR	1k		R0805	VARIOUS	VARIOUS	Yes	Yes
R223	1	RESISTOR	15k		R0805	VARIOUS	VARIOUS	Yes	Yes
R224	1	RESISTOR	100R		R0805	VARIOUS	VARIOUS	Yes	Yes
R226	1	RESISTOR	5.1R		R0805	VARIOUS	VARIOUS	Yes	Yes
R227, R230	2	RESISTOR	0R		R1206	VARIOUS	VARIOUS	Yes	Yes
R228	1	RESISTOR	1.5k		R0805	VARIOUS	VARIOUS	Yes	Yes
R231	1	RESISTOR	5.1k		R0805	VARIOUS	VARIOUS	Yes	Yes
R232	1	RESISTOR	820R		R0805	VARIOUS	VARIOUS	Yes	Yes
R239	1	RESISTOR	39k		R0805	VARIOUS	VARIOUS	Yes	Yes
R240	1	RESISTOR	56k		R0805	VARIOUS	VARIOUS	Yes	Yes
R243	1	RESISTOR	150k		R0805	VARIOUS	VARIOUS	Yes	Yes
TR201	1	LLC TRANSFORMER	600uH/ n = 16		PQ3220	Sumida	T91871	No	Yes
X101, X201	4	SCREW TERMINAL	Pitch 5.08 mm		WR-TBL Series 2365	Würth	691236510002	Yes	Yes
C226, C230, C231, C232, C234	5	CAPACITOR	NOT USED		C0805	N/A	N/A	Yes	Yes
R117	1	RESISTOR	NOT USED		R1206	N/A	N/A	Yes	Yes
R125, R229, R234, R235, R242, R244, R246	7	RESISTOR	NOT USED		R0805	N/A	N/A	Yes	Yes
B101	1	Bridge Rectifier	DFB2560		SIP-4	ON Semiconductor	DFB2560	No	Yes
D201, D203, D204	3	DIODE	MBR0540		SOD123	ON Semiconductor	MBR0540	No	Yes
D101, D104, D105, D107, D111, D212	6	DIODE	BAS16HT1G		SOD323	ON Semiconductor	BAS16HT1G	No	Yes
D102	1	DIODE	S3M		SMC	ON Semiconductor	S3M	No	Yes
D103	1	POWER DIODE	MSRF860G		TO-220-2 FullPak	ON Semiconductor	MSRF860G	No	Yes
D106, D110, D207	3	DIODE	MMSD4148T1G		SOD123	ON Semiconductor	MMSD4148T1G	No	Yes
D108, D109	2	DIODE	S1JFL		SOD123	ON Semiconductor	S1JFL	No	Yes
D112, D208	2	ZENER DIODE	MM3Z4V7T1G		SOD323	ON Semiconductor	MM3Z4V7T1G	No	Yes
D202	1	ZENER DIODE	MM3Z18VT1G		SOD323	ON Semiconductor	MM3Z18VT1G	No	Yes
D205, D206	2	DIODE	MBR2H100SFT3G		SOD123	ON Semiconductor	MBR2H100SFT3G	No	Yes
D209	1	DIODE	ES1JFL		SOD123	ON Semiconductor	ES1JFL	No	Yes
D211	1	ZENER DIODE	MM3Z12VT1G		SOD323	ON Semiconductor	MM3Z12VT1G	No	Yes
IC101	1	PFC CONTROLLER	NCP1618A		SO10	ON Semiconductor	NCP1618A	No	Yes
IC201, IC202	2	SR DRIVER	NCP4306		TSOP6	ON Semiconductor	NCP4306DAAZZAA	No	Yes
IC203	1	LLC CONTROLLER	NCP13992		SO16	ON Semiconductor	NCP13992	No	Yes
IC204	1	SHUNT REGULATOR	NCP431		SOT23	ON Semiconductor	NCP431BISNT1G	No	Yes
OK201, OK202	2	OPTOCOUPLER	TCLT1008		SOP-4	VISHAY	TCLT1008	Yes	Yes
Q101	1	POWER MOSFET	FCPF165N65S3L1		TO-220-2 FullPak	ON Semiconductor	FCPF165N65S3L1	FCPF22N60NT	Yes
Q102	1	NPN Transistor	NSS20200LT1G		SOT23	ON Semiconductor	NSS20200LT1G	No	Yes
Q201	1	MOSFET	BSS138LT1G		SOT23	ON Semiconductor	BSS138LT1G	No	Yes
Q202, Q203	2	POWER MOSFET	FCPF22N60NT		TO-220-2 FullPak	ON Semiconductor	FCPF22N60NT	No	Yes
Q204, Q205, Q206, Q207	4	POWER MOSFET	NTMFS5C442NL		SO8FL	ON Semiconductor	NTMFS5C442NL1G	No	Yes
D210	1	DIODE	NOT USED		SOD123	N/A	N/A	Yes	Yes
MOD101									
C301	1	MPP CAPACITOR	10nF/275V-		C102-043X133	Würth	890324023006	Yes	Yes
C302	1	CAPACITOR	1uF/50V		C0805	Würth	885012207103	Yes	Yes
D301, D302	2	DIODE	S1JFL		SOD123	ON Semiconductor	S1JFL	No	Yes
D303	1	ZENER DIODE	MM3Z7V5T1G		SOD323	ON Semiconductor	MM3Z7V5T1G	No	Yes
Q301	1	MOSFET	BSS138LT1G		SOT23	ON Semiconductor	BSS138LT1G	No	Yes
Q303	1	MOSFET	BSS127		SOT23	Infineon	BSS127H6327XTSA2	No	Yes
R301, R302	2	RESISTOR	5.1k		R0805	VARIOUS	VARIOUS	Yes	Yes
R303	1	RESISTOR	120k		R0805	VARIOUS	VARIOUS	Yes	Yes

R304	1	RESISTOR	470k		R0805	VARIOUS	VARIOUS	Yes	Yes
R305	1	RESISTOR	0R		R0805	VARIOUS	VARIOUS	Yes	Yes
R306, R307, R308	3	RESISTOR	33k		R0805	VARIOUS	VARIOUS	Yes	Yes
Q302	1	MOSFET	NOT USED		SOT23	N/A	N/A	Yes	Yes