

Bill of Materials for the NCP1568 Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
ADRV ATH VSW	3	Blue Test Point			Through Hole	E-Mark Inc	01-1017	Yes	Yes
BD1	1	Bridge Rectifier	600V/4A		4-SMD	ZOWIE	Z4GF40KH	Yes	Yes
BODE100-101	2	CONN HEADER	1	NA	Through Hole	E-Mark	01-1014	Yes	Yes
C100 C103 C105	3	SMT Capacitor	DNI		603		DNI	Yes	Yes
C101 C104	2	SMT Capacitor	6.8nF	±5%	603	Kemet	C0603682JGACTU	Yes	Yes
C102	1	SMT Capacitor	0.1 uF	±5%	603	AVX Corp	LD033C104KAB2A	Yes	Yes
C106	1	SMT Capacitor	22nF	±10%	603	Kemet	C0603223K5RACTU	Yes	Yes
C107	1	SMT Capacitor	DNI	±5%	603	Kemet	DNI	Yes	Yes
C108	1	SMT Capacitor	1.0 uF	±10%	603	Taiyo Yuden	UMK107AB7105KA-T	Yes	Yes
C11	1	SMT Ceramic Capacitor	1.0uF	±10%	603	TDK	C1608X5R1H105K080AB	Yes	Yes
C1-2	2	Y Capacitors	DNP		1812			Yes	Yes
C12 C14 C16 C38 C40	5	SMT Ceramic Capacitor	0.1 uF	±20%	603	TDK	C1608X7R1H104K080AA	Yes	Yes
C13 C25	2	SMT Ceramic Capacitor	120pF	±5%	603	Kemet	C0603C121J5GACTU	Yes	Yes
C15	1	SMT Ceramic Capacitor	0.33 uF	±10%	603	TDK	C1608X7R1H334K080AA	Yes	Yes
C17 C24 C39	3	SMT Ceramic Capacitor	1.0uF	±10%	603	TDK	C1608J81H105K080AB	Yes	Yes
C18-21	4	SMT Capacitor	0.22uF	±10%	1210	TDK Corporation	C3225X7T2W224K200AA	Yes	Yes
C22	1	Aluminum Capacitor	68uF	±20%	(6.3)mm	Panasonic	EEU-HD1H680B	Yes	Yes
C23	1	SMT Capacitor	1uF	±10%	805	Taiyo Yuden	HMK212BC7105KG-TE	Yes	Yes
C26	1	SMT Ceramic Capacitor	DNP		603			Yes	Yes
C27	1	Y Capacitors	470pF	±10%	Radial Disc	Murata	DE2B3KY4711K3AM02F	Yes	Yes
C28	1	Y Capacitors	150pF	±10%	Radial Disc	Murata	DE1B3KX1511K3NA0P1F	Yes	Yes
C29-31 C33	4	Ceramic Capacitor SMT	22 uF	±20%	1206	TDK	C3216X5R1V226M160AC	Yes	Yes
C3	1	SMT Ceramic Capacitor	1nF	±10%	603	Murata	GCM188R71H102KA37D	Yes	Yes
C32	1	DNI	DNI	±5%	805	DNI	DNI	Yes	Yes
C34	1	SMT Capacitor	150 pF	±5%	805	KEMET	08052C151J2GACTU	Yes	Yes
C35	1	SMT Ceramic Capacitor	4.7 uF	±10%	603	Murata	GRM188R67A475KE18D	Yes	Yes
C36-37	2	Aluminum Polymer Cap	470uF/25V	±20%	10.3x10.3x12.8)mm	Nichicon	25V3VFK470M	Yes	Yes
C4	1	X2 capacitor	220nF	±10%	(13.8X14.5)mm	Würth	8.90334E+11	Yes	Yes
C5	1	SMT Ceramic Capacitor	47nF	±10%	603	TDK	CGA3E2X7R1H473K080AA	Yes	Yes
C6	1	SMT Ceramic Capacitor	18pF	±10%	603	Kemet	C0603C180K3GACTU	Yes	Yes
C7	1	Aluminum Capacitor	47 uF	±20%	(12.1X33.5)mm	Nichicon	UPZ2G470MHD	Yes	Yes
C8	1	Aluminum Capacitor	82 uF	±20%	(12.1X42)mm	Rubycon	4008XW82MEFCG412.5X40	Yes	Yes
C9-10	2	SMT Capacitor	0.10uF	±10%	1210	TDK Corporation	CGA6L1X7T2J104K160AC	Yes	Yes
CON100	1	USB C plug	0.65"		SMT 1H1	Würth	6.30723E+11	Yes	Yes
D10	1	DNI	DNI	NA	SOD-123	DNI	DNI	Yes	Yes
D100	1	DIODE GEN	100V 200mA	NA	SOD-123	ON Semiconductor	MMSD4148T3G	No	Yes
D12	1	Schottky Diodes	150V 2A	NA	SMA	STMicroelectronics	STPS2150A	No	Yes
D1-3	3	High Voltage Diode	600 V 1 A	NA	SOD-123-2	ON Semiconductor	ES1JFL	No	Yes
D4	1	Schottky Barrier Diodes	30V 1A	NA	SOD-123	ON Semiconductor	MMSD4148T1G	No	Yes
D5-7	3	Schottky Barrier Diodes	30V 1A	NA	SOD-123	ON Semiconductor	MBR130LSFT1G	No	Yes
D8	1	High Voltage Diode	600 V 1 A	NA	SOD-123-2	ON Semiconductor	ES1JFL	No	Yes
D9 D11 D13	4	Schottky Barrier Diodes	100V	NA	SOD-123	ON Semiconductor	MMSD4148T3G	No	Yes
DTH FB FLT LGATE RT CS	6	White Test Point			Through Hole	E-Mark Inc	01-1013	Yes	Yes
E	1	Green Test Point			Through Hole	E-Mark Inc	01-1036	Yes	Yes
F1	1	FAST FUSE 2	3.15A	250V	(8.5x4x8) mm	Littelfuse Inc.	39213150000	Yes	Yes
F1S SIS	2	RM8 T1 Connection						Yes	Yes
F2S S2S	2	RM8 T1 Connection						Yes	Yes
GND4 GND S GND1-3	5	Black Test Point			Through Hole	E-Mark Inc	01-1015	Yes	Yes
GND8100	1	CONN HEADER	1	NA	Through Hole	E-Mark	01-1023	Yes	Yes
HV	1	Yellow Test Point			Through Hole	E-Mark Inc	01-1013	Yes	Yes
L	1	White Test Point			Through Hole	E-Mark Inc	01-1013	Yes	Yes
L1	1	SMT Inductor	2uH	0.2	(6.90x6.90)	Würth	744314200	Yes	Yes
L3	1	SMT Inductor	10uH	0.1	8.2mm	Würth	744772100	Yes	Yes
N	1	Black Test Point			Through Hole	E-Mark Inc	01-1015	Yes	Yes
PR1 REG100	1	SIP Header	DNI				DNI	Yes	Yes
PR1REG	1	SIP Header	2	NA	Through Hole	Würth	61300211021	Yes	Yes
Q1	1	PNP BJT	DNI	NA	SOT-23-3	ON Semiconductor	DNI	No	Yes
Q100	1	PMOSFET	30V	NA	Power56	ON Semiconductor	FDMS6681Z	No	Yes
Q2	1	600V MOSFET	600V 9A	NA	ThinPak 8X8	Infineon Technologies	IPLE6R385CPAUMA1	Yes	Yes
Q3	1	600V MOSFET	600V 9A	NA	ThinPak 8X8	Infineon Technologies	IPLE6R299CP	Yes	Yes
Q4	1	PMOSFET	150V	NA	SOT23	ON Semiconductor	FDN86265P	No	Yes
Q5	1	NPN Transistor	80V 200mA	NA	SOT-23-3	ON Semiconductor	BSS84L1TG	No	Yes
Q6 Q10	2	Dual n-pn Transistor	40V 200mA	NA	SOT-363	ON Semiconductor	MB1394ADW11TG	No	Yes
Q7	1	DNI	DNI	NA	SOT-23-3	DNI	DNI	Yes	Yes
Q8	1	Power NFET	120V 11 mOhm	NA	SOIC8_FL	ON Semiconductor	FDMS86202	No	Yes
Q9	1	PMOSFET	50V	NA	SOT23	ON Semiconductor	BSS84L1TG	No	Yes
R1	1	SMT Resistor	100k	±1%	603	Panasonic	ERJ-3KF1003V	Yes	Yes
R10	1	SMT Resistor	1k	±1%	603	Vishay	CRCW06031K00FKEA	Yes	Yes
R100 R115-116	3	SMT Resistor	DNI		603	DNI	DNI	Yes	Yes
R101 R111	2	SMT Resistor	20R	±1%	603	Stackpole	RNCP0603FTD20R0	Yes	Yes
R102	1	SMT Resistor	100k	±1%	603	Vishay	CRCW0603100KFKEA	Yes	Yes
R103	1	SMT Resistor	49.9k	±1%	603	Vishay	CRCW060349K9FKEA	Yes	Yes
R104	1	SMT Resistor	5.49k	±1%	603	Vishay	CRCW0603549FKEA	Yes	Yes
R105 R113-114	3	SMT Resistor	1.54k	±1%	603	Vishay	CRCW06031K54FKEA	Yes	Yes
R106	1	SMT Resistor	33.2k	±1%	603	Vishay	CRCW060333K2FKEA	Yes	Yes
R107	1	SMT Resistor	30.9k	±1%	603	Panasonic	ERJ-3KF3092V	Yes	Yes
R108-109	2	SMT Resistor	41.2k	±1%	603	Panasonic	ERJ-3KF4122V	Yes	Yes
R11	1	SMT Resistor	24.3k	0.01	603	Vishay	CRCW060324K3FKEA	Yes	Yes
R110	1	SMT Resistor	24.9k	±1%	603	Vishay	CRCW060324K9FKEA	Yes	Yes
R112	1	SMT Resistor	15 mOhms	±1%	1206	Vishay	WVSLP1206R0150FEA	Yes	Yes
R117	1	SMT Resistor	7.5k	±1%	603	Vishay	CRCW06037K50FKEA	Yes	Yes
R118	1	SMT Resistor	220R	±1%	603	Panasonic	ERJ-3KF2200V	Yes	Yes
R119	1	SMT Resistor	DNI	±1%	603	Vishay	DNI	Yes	Yes
R12	1	SMT Resistor	82.5k	±1%	603	Vishay	CRCW060382K5FKEA	Yes	Yes
R13	1	SMT Resistor	280k	±1%	603	Vishay	CRCW0603280KFKEAHP	Yes	Yes
R14-15	2	SMT Resistor	DNI	0.01	603	Vishay	CRCW06036K65FKEA	Yes	Yes
R16	1	SMT Resistor	DNI	NA	603	Vishay	CRCW0603000020EA	Yes	Yes
R17	1	SMT Resistor	10M	±5%	1206	Vishay	CRCW120610M0JNEA	Yes	Yes
R18 R21	2	SMT Resistor	10R0	±5%	603	Vishay	CRCW060310R0JNEAC	Yes	Yes

R19 R23	2	SMT Resistor	15R0	NA	603	Vishay		CRCW060315R0FKEAHP		Yes	Yes
R20 R22 R31 R42 R51	5	SMT Resistor	49.9k	±1%	603	Vishay		CRCW060349K9FKEAC		Yes	Yes
R2-3	2	SMT Resistor	1k	±5%	1206	Vishay		CRCW12061K00JNEA		Yes	Yes
R24	1	SMT Resistor	604R	±1%	603	Vishay		CRCW0603604R4FKEA		Yes	Yes
R26-29	4	SMT Resistor	499k	±1%	603	Vishay		CRCW0603499K4FKEAHP		Yes	Yes
R30 R47	2	SMT Resistor	DNI	NA	603			DNI		Yes	Yes
R32-33	2	SMT Resistor	500 m	±1%	805	Susumu		RL1220S-R50-F		Yes	Yes
R36 R40	2	SMT Resistor	22R0	±1%	603	Vishay		CRCW060322R0FKEAC		Yes	Yes
R37	1	DNI	DNI	±1%	603	DNI		DNI		Yes	Yes
R39	1	DNI	DNI	±1%	603	DNI		DNI		Yes	Yes
R4	1	SMT Resistor	46.4k	±1%	603	Vishay		CRCW060346K4FKEA		Yes	Yes
R41	1	SMT Resistor	100R	±5%	805	Vishay		CRCW0805100RJNEA		Yes	Yes
R43	1	SMT Resistor	DNI	±1%	402	Panasonic		ERJ-2GE0R00X		Yes	Yes
R44	1	SMT Resistor	2.49k	±1%	603	Vishay		CRCW06032K49FKEA		Yes	Yes
R45	1	SMT Resistor	4.99k	±1%	603	Vishay		CRCW06034K99FKEAC		Yes	Yes
R46	1	DNI	DNI	NA	402	DNI		DNI		Yes	Yes
R48	1	SMT Resistor	3.92k	±1%	603	Vishay		CRCW06033K92FKEAHP		Yes	Yes
R49-50	2	SMT Resistor	499k	±1%	603	Vishay		CRCW0603499K4FKEAC		Yes	Yes
R5	1	SMT Resistor	5.36M	0.01	603	Vishay		CRCW06035M36FKEA		Yes	Yes
R52	1	SMT Resistor	3.09k	±1%	603	Vishay		CRCW06033K09FKEA		Yes	Yes
R6-7	2	SMT Resistor	10k	0.01	603	Vishay		CRCW060310K0FKEA		Yes	Yes
R8	1	SMT Resistor	1R0	±5%	603	Vishay		CRCW06031R00JNEA		Yes	Yes
R9 R25 R34-35 R38	5	SMT Resistor	0R0	NA	603	Vishay		CRCW0603000Z0EA		Yes	Yes
RET100 RETS100	2	CONN HEADER Black	1	NA	Through Hole	E-Mark		01-1015		Yes	Yes
RT1	1	SMT Resistor	220k	±1%	603	Murata		NCP18W1224J03RB		Yes	Yes
SEC_REG	1	SIP Header	2	NA	Through Hole	Würth Electronics		61300411021		Yes	Yes
SEC_REG100	1	SIP Header	DNI	NA	Through Hole			DNI		Yes	Yes
SW100	1	SWITCH SLIDE DIP	24V 25mA	NA	Gull Wing	Würth		4.16131E+11		Yes	Yes
T1	1	Transformer	120 uH 6:1	0.2	RM8LP	Würth		750317295		Yes	Yes
T2	1	Common Mode Choke	6.5 mH 70mOhm	NA	(15X12X15)mm	KEMET		SCF-03-650		Yes	Yes
U1	1	ACF PWM Controller	700V 2A		Tssop 16	ON Semiconductor		NCP1568S00DBR2G		No	Yes
U100	1	Secondary Side CV/CC Controller	1.25V	0.5%	TSOP-6	ON Semiconductor		NCP4328BSNT1G		No	Yes
U101	1	Optoisolator	1.17V 50mA	NA	4-SMD, Gull Wing	CEL		PS2513L-1-F3-A		Yes	Yes
U2	1	H Bridge Driver	600V 1.9A	NA	SOIC-8	ON Semiconductor		NCP51530ADR2G		No	Yes
U3	1	Sync Rec	20V	NA	DFN8	ON Semiconductor		NCP4306AADZZAMNTWG		No	Yes
VCC VOUT	2	Red Test Point			Through Hole	E-Mark Inc		01-1178		Yes	Yes
VOUT_C100 VOUT_CS100	2	CONN HEADER	1	NA	Through Hole	E-Mark		01-1037		Yes	Yes
Z1	1	Zener Diode	18V 500mW	±5%	SOD-323	ON Semiconductor		MM3Z18VC		No	Yes
Z2	1	Zener Diode	12 V	±5%	SOD-323	ON Semiconductor		MM3Z12VB		No	Yes
Z3	1	Zener Diode	6.8 V	±5%	SOD-323	ON Semiconductor		MM3Z6V8C		No	Yes
Z4	1	Zener Diode	DNI	±5%	SOD-323	ON Semiconductor		MM3Z5V1C		No	Yes
Z5	1	DNI	DNI	±5%	SOD-123	DNI		DNI		Yes	Yes
Z6	1	Zener Diode	12V 500mW	±5%	SOD-323	ON Semiconductor		MM3Z12VB		No	Yes