



Bill of Materials for the NCP1568PDUHD60WGEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
Q15	1	NMOSFET	60V 115mA	NA	SOT-23	ON Semiconductor	NI	NO	YES
F1	1	FAST FUSE 2	3.15A	250V	(6.5x4x8) mm	Littelfuse Inc.	39213150000	YES	YES
C41	1	Aluminum Capacitor	6.8 uF	±20%	(8X14)mm	Wurth	8.60021E+11	YES	YES
C7	1	Aluminum Capacitor	100 uF	±20%	(14.5X42)mm	United Chemi-Con	EKKJ401ELL101MU40S	YES	YES
C8 C53	2	CAP CER 680PF 250VAC X7R 1808	1000pF	±10%	1808 (4520 Metric)	Johanson Dielectrics Inc.	502R29W102KV3E-****-SC	YES	YES
C12 C52	2	CAP CER 680PF 250VAC X7R 1808	330pF	±10%	1808 (4520 Metric)	Knowles Syfer	1808YA250331KXTSY2	YES	YES
L1	1	SMT Inductor	2.2 uH	20%	(5.50x 5.30)	Wurth		744316220	YES
L2	1	Inductor	33 uH	10%	D = 7.8mm	Wurth		744772330	YES
C31	1	Aluminum Capacitor	56uF	±20%	(12.X5)mm	Wurth Electronics Inc.	860080472003	YES	YES
C1-2	2	Aluminum Polymer Cap	470uF/25V	±20%	(10.5x13)mm	Kemet	A750MS477M1EAAE015	YES	YES
C9	1	SMT Ceramic Capacitor	100 pF	±5%	402	Kemet	C0402C101J1HACTU	YES	YES
C15	1	SMT Ceramic Capacitor	22 pF	±5%	402	Kemet	C0402C220K4GACTU	YES	YES
C14	1	SMT Ceramic Capacitor	330 pF	±5%	402	Kemet	C0402C331J3GAC7867	YES	YES
C29	1	SMT Ceramic Capacitor	NI	±5%	402	Kemet	NI	YES	YES
C5 C16	2	SMT Ceramic Capacitor	0.33 uF	±5%	402	TDK	CGA2B3X7S1A334M050BB	YES	YES
C10 C20	2	SMT Ceramic Capacitor	1nF	±5%	402	Murata	GMD155R71H102KA01D	YES	YES
C13	1	SMT Ceramic Capacitor	150 pF	±10%	603	TDK	C1608CH2E151K080AA	YES	YES
C46	1	SMT Ceramic Capacitor	47 nF	±10%	402	TDK	C1005X6S1H473M050BB	YES	YES
C4	1	SMT Ceramic Capacitor	NI	±5%	402			YES	YES
C44	1	SMT Ceramic Capacitor	100nF	±10%	402	TDK	CGA2B3X7R1H104K050BB	YES	YES
C49	1	SMT Ceramic Capacitor	NI		402			YES	YES
C37	1	SMT Ceramic Capacitor	NI	±10%	402			YES	YES
C22	1	SMT Ceramic Capacitor	0.1 uF	±20%	1210	KEMET	C1210C104KBRAC7800	YES	YES
C36 C45 C50 C5	4	SMT Ceramic Capacitor	22 uF	±20%	1206	TDK	C3216X5R1V226M160AC	YES	YES
C32 C38-39 C42	4	SMT Ceramic Capacitor	0.22uF	±10%	1210	TDK Corporation	C3225X7T2W224K200AA	YES	YES
C25	1	SMT Ceramic Capacitor	NI	±10%	805			YES	YES
C6 C19 C30 C33	4	SMT Ceramic Capacitor	1.0uF	±10%	603	Samsung	CL10A105KL8NINC	YES	YES
R2	1	SMT Resistor	100k	±1%	402	Vishay	CRCW0402100KFKED	YES	YES
R4	1	SMT Resistor	100k	±1%	402	Yageo	RC0402FR-07100KL	YES	YES
R27	1	SMT Resistor	165k	±1%	402	Yageo	RC0402FR-07165KL	YES	YES

R46		1	SMT Resistor	1M	±1%	402	Vishay	CRCW04021M00FKEDC		YES	YES	
R52		1	SMT Resistor	2.55M	±1%	402	Vishay	CRCW04022M55FKED		YES	YES	
R49		1	NTC THERMISTOR	220k	±1%	402	Murata	NCP15WM224J03RC		YES	YES	
R51		1	SMT Resistor	340k	±1%	402	Yageo	RC0402FR-07365KL		YES	YES	
R28		1	SMT Resistor	0R0	NA	402	Panasonic Electronic Component	ERJ-2GE0R00X		YES	YES	
R12		1	SMT Resistor	732R	±1%	402	Yageo	RC0402FR-0732RL		YES	YES	
R7		1	SMT Resistor	10R0	±1%	402	Vishay	CRCW040210R0FKED		YES	YES	
R37		1	SMT Resistor	15k	±1%	402	Vishay	CRCW040215K0JNED		YES	YES	
R53 R55		2	SMT Resistor	NI	±1%	402	Vishay	NI		YES	YES	
R33		1	SMT Resistor	11.5k	±1%	402	Vishay	CRCW040211K5FKED		YES	YES	
R48		1	SMT Resistor	121k	±1%	402	Yageo	CRCW0402121KFKEA		YES	YES	
R31		1	SMT Resistor	47k	±1%	402	Vishay	CRCW040247K0FKEDC		YES	YES	
R32		1	SMT Resistor	51R	±1%	402	Vishay	CRCW040251R0JNED		YES	YES	
R39		1	SMT Resistor	120k	±1%	402	Vishay	CRCW0402120KFKEDC		YES	YES	
R17		1	SMT Resistor	22k	±1%	402	Vishay	CRCW040222K0FKEDC		YES	YES	
R23		1	SMT Resistor	7.32k	±1%	402	Yageo	RC0402FR-077K32L		YES	YES	
R5		1	SMT Resistor	1k	±1%	402	Vishay	CRCW04021K00FKTD		YES	YES	
R30		1	SMT Resistor	0R0	NA	402	Panasonic Electronic Component	ERJ-2GE0R00X		YES	YES	
R34		1	SMT Resistor	0R0	±1%	402	Vishay	RCG04020000Z0ED		YES	YES	
R9 R45		2	SMT Resistor	10R0	±1%	402	Vishay	RCW040210R0JNEDHP		YES	YES	
R29		1	SMT Resistor	1R0	±1%	402	Vishay	CRCW04021R00JNEDIF		YES	YES	
R41		1	SMT Resistor	2.32k	±1%	402	Yageo	RC0402FR-072K32L		YES	YES	
R38		1	SMT Resistor	6.49k	±1%	402	Yageo	RC0402FR-076K49L		YES	YES	
R1 R10		2	SMT Resistor	365k	±1%	402	Yageo	RC0402FR-07365KL		YES	YES	
R40 R42-44		4	SMT Resistor	22.1R	±1%	402	Vishay	CRCW040222R1FKED		YES	YES	
R25		1	SMT Resistor	100k	±1%	402	Yageo	RC0402FR-07100KL		YES	YES	
R13 R21		2	SMT Resistor	49.9k	±1%	402	Yageo	RC0402FR-0749K9L		YES	YES	
R35		1	SMT Resistor	NI	±1%	402				YES	YES	
R18-19		2	SMT Resistor	59k	±1%	402	Vishay	CRCW040259K0FKED		YES	YES	
R47		1	SMT Resistor	5.11k	±1%	402	Vishay	CRCW04025K11FKTD		YES	YES	
R3		1	SMT Resistor	48.7k	±1%	402	Yageo	RC0402FR-0748K7L		YES	YES	
R6 R36		2	SMT Resistor	15R0	NA	603	Vishay	CRCW060315R0JNEA		YES	YES	
R14		1	SMT Resistor	1R0	NA	603	Vishay	CRCW06031R00JNEA		YES	YES	
R8 R22		2	SMT Resistor	22R0	NA	603	Vishay	CRCW060322R0JNEA		YES	YES	
R50		1	SMT Resistor	10k	±1%	603	Vishay	CRCW060310K0JNEAHP		YES	YES	
R11		1	SMT Resistor	120k	±5%	1206	Vishay	CRCW12061M00JNEAHP		YES	YES	
R24 R54		2	SMT Resistor	1.5k	±1%	1206	Vishay	CRCW12061K50JNEA		YES	YES	
D4 D8		2	Rectifier Diode	800V 200mA	NA	SOD-323F	Panasonic	DA2JF8100L		YES	YES	
J1-12		12	DAUGHTER BOARD PAD	NA	NA	2X3mm	NA	NA		YES	YES	
D3 D15		2	High Voltage Diode	600 V 1 A	NA	SOD-123T	ON Semiconductor	ES1JFL		NO	YES	
Q7		1	Power NFET	120V 11 mOhm	NA	SOIC8_FL	ON Semiconductor/Fairchild	FDMS86202		NO	YES	
U8		1	Opitoisolator	1.17V 50mA	NA	4-SMD, Gull Wing	CEL	F0DM88018V		YES	YES	
C48		1	SMT Capacitor	1uF	±5%	402	TDK	C1005C4R1E105K050BC		YES	YES	
C34-35 C40 C43		4	SMT Ceramic Capacitor	390pF	±5%	402	Murata	GRM1555C1H391JA01J		YES	YES	
C21		1	SMT Ceramic Capacitor	0.1 uF	±20%	603	Murata	GCM188R71E104KA57D		YES	YES	
C47		1	SMT Ceramic Capacitor	10 uF	±20%	603	Murata	GRT188R61C106ME13D		YES	YES	
C51		1	SMT Ceramic Capacitor	4.7 uF	±20%	603	Murata	GRT188R6YA475ME13D		YES	YES	
C27		1	SMT Ceramic Capacitor	1.0 uF	±10%	805	Taiyo Yuden	HMK212BBJ105KG-TE		YES	YES	
T2		1	Common Mode Choke	420 uH	NA	LxWxH (12x7x14)	BOURNS	BS81073CT		YES	YES	
Q1		1	600V MOSFET	600V 9A	NA	ThinPak 8X8	Infineon Technologies	IPLE6R385CPAUMA1		YES	YES	
Q5		1	600V MOSFET	600V 9A	NA	ThinPak 8X8	Infineon Technologies	IPLE6R299PC		YES	YES	
U6		1	Linear Regulator		1.22	2%	DFN 5X3	TI	LT3014BEDD9PBF		YES	YES
Z4		1	Zener Diode	18V 500mW	±5%	SOD-523-2	ON Semiconductor	SZMM5218V1T1G		NO	YES	
Z3		1	Zener Diode	4.7V 500mW	±2%	SOD-523-2	ON Semiconductor	MM5Z4V75T5G		NO	YES	
Z1		1	Zener Diode	6.8V 200mW	±5%	SOD-523-2	ON Semiconductor	MM5Z6V8T1G		NO	YES	
D6		1	GP Diode	100V 200mA	NA	SOD-323	ON Semiconductor	MMDL9141TG		NO	YES	
U2		1	ACF PWM Controller	30V 1000 MHz		Tssop 16	ON Semiconductor	NCP1568S00DBR2G		NO	YES	
U5		1	Sync Rec	20V	NA	DFN8	ON Semiconductor	NCP4306AADZZAMNTWG		NO	YES	
U3-4		2	Linear Regulator	ADJ	1%	XDFN6	ON Semiconductor	NCP4623HMXADJTCG		NO	YES	
U7		1	Driver	NA	NA	DFN 10 4x4mm	ON Semiconductor	NCP51530AMNTWG		NO	YES	
D7 D14 D18		3	Schottky Barrier Diodes	100V 200mA	NA	SOD-523	ON Semiconductor	NSD914XV2T1G		NO	YES	
D17		1	Schottky Barrier Diodes	NI	NA	SOD-523	ON Semiconductor	NI		NO	YES	
D5 D11 D13 D16		4	Schottky Diode	40V 1.5A	NA	DSN2(0603)	ON Semiconductor	NSR15405NXT5G		NO	YES	
C11		1	X2 capacitor	0.1uF	±20%	(13X5x11)mm	Kemet	R46KF310000P1M		YES	YES	
R15		1	SMT Resistor	100R	±1%	805	Vishay	RCS0805100RJNEA		YES	YES	
R16 R20		2	SMT Resistor	430m	±1%	805	Vishay	RCWE0805R430PFKEA		YES	YES	
Q2		1	MOSFET P-CH 30V 60A PPAK SO-8	2.6 mOhm	NA	SX6 S08	Vishay	SI7145DP-T1-GE3		YES	YES	
D9		1	Schottky Diodes	150V 2A	NA	SMA	STMicroelectronics	STPS2150A		YES	YES	
D1-2		2	TVS	5.0V	NA	X2DFN2	ON Semiconductor	ESD7241N2T5G		NO	YES	
D10 D12		2	TVS	5.5V	NA	X2DFN2	ON Semiconductor	NSPU3051N2T5G		NO	YES	
C17-18 C23-24 C		6	SMT Ceramic Capacitor	0.1uF	±10%	402	TDK	CGA2B35R1V104K050BB		YES	YES	
C3		1	SMT Ceramic Capacitor	2.2uF	±20%	603	Kemet	UMK107BBJ225KA-T		YES	YES	
CON1		1	USB 3.1 TYPE C RECEPTACLE	NA	NA	THT/SM	Würth	632723300011		YES	YES	
L N		2	WIRE HOLE 17AWG		±1%					YES	YES	
R26		1	SMT Sense Resistor	5mOhm	±1%	1206	Vishay	WSLP12065L000FEA		YES	YES	
U1		1	USB PD Controller	65W	na	QFN16	Welltend	WT6815F		YES	YES	
T1		1	Flyback Transformer	120 uF	10%	RM8LP	Würth	750317295 rev 04		YES	YES	
BD1		1	Bridge Rectifier	800V/2A		4-SMD	ZOWIE	Z4GP40KH		YES	YES	
BD1		1	Bridge Rectifier	800V/2A		4-SMD	ZOWIE	Z4GP40KH		YES	YES	