



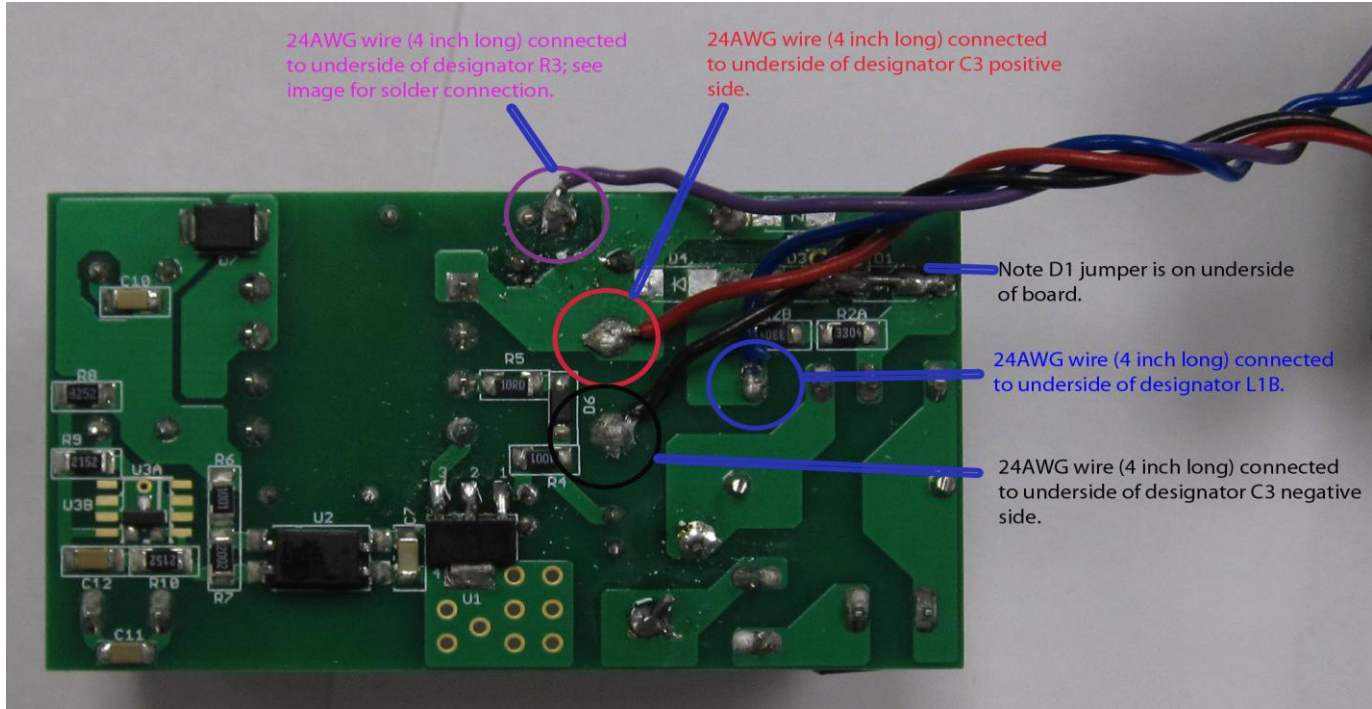
Bill of Materials for the NCP1075PREGEVK

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
D7	1	Schottky diode	2A, 60V	-	SMB	ON Semiconductor	MBRS260T3	No	Yes
D5	1	Diode - fast recov	1A, 600V	-	axial lead	ON Semiconductor	1N4937	No	Yes
D6	1	Signal diode	100mA, 100V	-	SOD-123	ON Semiconductor	MMSD4148A	No	Yes
U3	1	Programmable zener	2.5V	-	SOIC8 / SOT23	ON Semiconductor	NCP431A	No	Yes
U2	1	Optocoupler	CTR \geq 0.5	-	4-pin	Vishay or NEC	SFH6156A-4 or Digikey P/N = PS2561L-1A-ND	Yes	Yes
U1	1	Switcher IC - NCP1075	130 kHz	-	SOT223	ON Semiconductor	NCP1075STCT3G	No	Yes
C1, C2	2	"X" cap, box type	100nF, X2	-	LS = 15 mm	Rifa, Wima	Digi-Key P/N = 399-5426-ND	Yes	Yes
C8	1	"Y1" cap, disc type	1nF, Y1	-	LS = 7.5 mm	Rifa, Wima	Digikey P/N = BC2374-ND, Mouser P/N = 75-	Yes	Yes
C4	1	Ceramic cap, disc	100 pF, 1kV	10%	Radial	Vishay BC	F101K25Y5RN63K5R	Yes	Yes
C7	1	Ceramic cap, monolithic	1 nF, 50V	10%	1206	AVX, Murata	Digi-Key P/N = 311-1170-1-ND	Yes	Yes
C10, 11, 12	3	Ceramic cap, monolithic	100nF, 50V	10%	1206	AVX, Murata	Digi-Key P/N = 311-1179-1-ND	Yes	Yes
C3	1	Electrolytic cap	22uF, 250V	10%	16.0mm Diameter	Nichicon	UPJE220MHD1TN	Yes	Yes
C6	1	Electrolytic cap	4.7uF, 50Vdc	10%	LS=2.5 mm, D=6.3mm	UCC, Panasonic	Digi-Key P/N = 565-1105-ND	Yes	Yes
C5	1	Electrolytic cap	22uF, 25V	10%	LS=2.5mm, D=6.3mm	UCC, Panasonic	Digi-Key P/N = 565-1056-ND	Yes	Yes
C9A, C9B	2	Electrolytic cap	1000uF, 16V	10%	LS=5mm, D=12.5mm	UCC, Panasonic	Digi-Key P/N = 565-1664-ND	Yes	Yes
D1, R1	2	Jumper	0 ohm	-	-	Various	Various	Yes	Yes
R3	1	Resistor	220k ohm, 0.5W	5%	Axial lead	Stackpole Electronics	CFM12JT220K	Yes	Yes
R2A, R2B	2	Resistor, 1/4W SMD	3.3 Meg	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-3.30MFCT-ND	Yes	Yes
R5	1	Resistor, 1/4W SMD	10 ohms	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-10.0FCT-ND	Yes	Yes
R4	1	Resistor, 1/4W SMD	1K	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-1.00KFCT-ND	Yes	Yes
R9, R10	2	Resistor, 1/4W SMD	21.5K	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-21.5KFCT-ND	Yes	Yes
R7	1	Resistor, 1/4W SMD	20K	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-20.0KFCT-ND	Yes	Yes
R6	1	Resistor, 1/4W SMD	1K	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-1.00KFCT-ND	Yes	Yes
R8	1	Resistor, 1/4W SMD	82.5K	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-82.5KFCT-ND	Yes	Yes
F1	1	Fuse, TR-5 style	1.5A	-	TR-5, LS=5mm	Minifuse	Digi-Key P/N = WK4253BK-ND	Yes	Yes
L1A/B	1	Inductor (EMI choke)	1 mH, 500 mA	-	See Wurth Drawing	LS=5mm, D=8mm	7447728102	Yes	Yes
T1	1	Transformer	E20/10/6 core	-	See Mag Drawing	Würth Magnetics	750312597	No	Yes
J1, J2	2	Screw Terminal	-	-	LS = 0.2"	DigiKey	# 281-1435-ND	Yes	Yes

Assembly Instructions:

1. A 24AWG wire (stranded and approximately 4 inches in length, **BLUE in color**) should be connected at one end to underside of designator L1B [near R2B]; see image.
2. A 24AWG wire (stranded and approximately 4 inches in length, **BLACK in color**) should be connected at the negative underside of electrolytic capacitor [designator C3].
3. A 24AWG wire (stranded and approximately 4 inches in length, **RED in color**) should be connected at the positive underside of electrolytic capacitor [designator C3].
4. A 24AWG wire (stranded and approximately 4 inches in length, **PURPLE in color**) should be connected to designator R3 on under side of board; see image.

Use image below for further reference.



Bill of Materials for the NCP1075PREGEVK Pre-Regulator Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1	1	Ceramic Cap	2.2 nF, 1kV	10%	Radial 5mm	TDK	CK45-B3AD222KYVNA	YES	YES
C2	1	Ceramic Chip Cap	1 nF, 10V	10%	0805	Various	Various	YES	YES
C4	1	Ceramic Chip Cap	100 nF, 10V	10%	0805	Various	Various	YES	YES
C3	1	Electrolytic Capacitor	22 uF, 250V	20%	Radial 5mm D10 x 16 mm	Rubycon	250PX22MEFC10X16	YES	YES
C5, C6	1	Electrolytic Capacitor	1 uF, 450V	20%	Radial 5mm D6.3x11 mm	Rubycon	450PX1MEFC6.3X11	YES	YES
D2	1	Diode Fast	100V 0.2A	-	SOD-123	ON Semiconductor	MMSD4148	NO	YES
D1	1	Diode	1000V 1A	-	SMA	ON Semiconductor	MRA4007T3G	NO	YES
D4	1	Diode	100V 0.2A	-	SOD-123	ON Semiconductor	MMSD4148	NO	YES
D3	1	Diode	1000V 1A	-	SMA	ON Semiconductor	MRA4007T3G	NO	YES
JP1	1	Carbon Chip Resistor	0R0	-	1206	Various	Various	YES	YES
Q1	1	Power MOS	600V 2A	-	DPAK	ON Semiconductor	NDD02N60Z	NO	YES
Q2, Q4	2	NPN transistor	-	-	SOT-23	ON Semiconductor	BC848BLT1G	NO	YES
Q3	1	PNP transistor	-	-	SOT-23	ON Semiconductor	BC858BLT1G	NO	YES
R1	1	Wirewound Resistor	0.15 5% 2W	5%	TOP Manual Axial 22.5mm	Various	Various	YES	YES
R3	1	Carbon Film Resistor	1K	5%	0805	Various	Various	YES	YES
R4	1	Carbon Film Resistor	NU	5%	0805	Various	Various	YES	YES
R5, R6, R7, R8, R9, R10	6	Carbon Chip Resistor	150K	5%	0805	Various	Various	YES	YES
R11	1	Carbon Chip Resistor	1K	5%	0805	Various	Various	YES	YES
R2, R12, R13, R14, R21	5	Carbon Chip Resistor	10K	5%	0805	Various	Various	YES	YES
R15, R16	2	Carbon Film Resistor	100K, 0.25W	5%	Axial 12.5mm	Various	Various	YES	YES
R17, R18	2	Carbon Chip Resistor	330K	5%	0805	Various	Various	YES	YES
R19, R20	2	Carbon Film Resistor	680K, 0.25W	5%	Axial 12.5mm	Various	Various	YES	YES
ZD1	1	Diode, Zener	10V	-	SOD-123	ON Semiconductor	MMSZ5240BT1G	NO	YES
ZD2	1	Diode, Transil	250V	-	Axial 12.5mm	STMICRO	P6KE250A	YES	YES
ZD3, ZD4	1	Carbon Chip Resistor	0R	-	0603	Various	Various	YES	YES
ZD5, ZD6	2	Diode, Zener	110V	-	SOD-123	ON Semiconductor	MMSZ5272BT3G	NO	YES
CN1	1	3 poles connectors	-	-	-	TE Connectivity	282836-3	YES	YES
CN2	1	2 poles connectors	-	-	-	TE Connectivity	282836-2	YES	YES
Drain,Source,Gate,Vref, Vout,GND	6	Single pin	-	-	-	SAMTEC	TSW-101-07-T-S	YES	YES