



Bill of Materials for the NCL30000LED3GEVB Evaluation Boards (90-305 Vac)

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1, C2	2	Metallized Polyester Film X1	47nF, 300 VAC	20%	Box	Panasonic	ECQ-U3A473MG	Yes	Yes
C3	0	Not Populated	-	-	-	-	-	-	-
C4	1	Metallized Polyester Film X1	100 nF, 300 VAC	20%	Box	Panasonic	ECQ-U3A104MG	Yes	Yes
C5	1	Ceramic	4700 pF, 2000 V	-20%/5%	Radial Disc	AVX	5SS472SBHCA	Yes	Yes
C6 C8	2	Electrolytic, 5mm dia	10 uF, 50 V	20%	Radial	Panasonic	EEU-EB1H100S	Yes	Yes
C7	1	Ceramic X7R	1 nF, 50 V	10%	0603 SMD	Panasonic	ECJ-1VB1H102K	Yes	Yes
C9	1	Ceramic C0G,NPO	820 pF, 50 V	5%	0603 SMD	Panasonic	ECJ-1VC1H821J	Yes	Yes
C10	1	Capacitor, Y5U X1Y1	4.7 nF, 250 VAC	20%	Radial	Panasonic	CD16-E2GA472MYNS	Yes	Yes
C11 C12	2	Aluminum Electrolytic	470 uF, 63 V	20%	Radial	Panasonic	ECA-1JHG471	Yes	Yes
C13	1	Ceramic X7R	100 nF, 25 V	10%	0603 SMD	Panasonic	ECJ-1VB1E104K	Yes	Yes
C14	1	Ceramic	100 pF, 50 V	5%	0603 SMD	Panasonic	ECJ-1VC1H101J	Yes	Yes
C15	1	Ceramic X7R	220 nF, 25 V	10%	1206 SMD	Panasonic	ECJ-3VB1E224K	Yes	Yes
C16	1	Ceramic X7R	100 nF, 100 V	10%	1206 SMD	Panasonic	ECJ-3YB2A104K	Yes	Yes
D1 D2 D3 D4	4	Rectifier	1000 V,1 A	-	SMA	ON Semiconductor	MRA4007T3	No	Yes
D5	1	Fast Rectifier	1 A 1000 V	-	SMA	Micro Commercial	ES1M	Yes	Yes
D6	1	Diode	250 V,200 mA	-	SOT23	ON Semiconductor	BAS21LT1G	No	Yes
D7 D13	2	Diode	70 V,200 mA	-	SOT23	ON Semiconductor	BAW56LT1G	No	Yes
D8	1	Dioed, ZENER	5.1 V	-	SOT23	ON Semiconductor	BZX84C5V1LT1G	No	Yes
D9	1	ZENER	15 V	-	SOT23	ON Semiconductor	MMBZ5245BLT1	No	Yes
D10	1	RECTIFIER	300 V,3 A	-	DPAK	ON Semiconductor	MURD330T4G	No	Yes
D11	1	ZENER	5.6 V	-	SOT23	ON Semiconductor	BZX84C5V6LT1G	No	Yes
D12	1	ZENER	56 V	-	SOT23	ON Semiconductor	BZX84C56LT1G	No	Yes
F1	1	Slow Blow TE5 Series	1 A	-	Axial	Littelfuse	3691100044	Yes	Yes
J1, J2	2	Screw Connector (0.2" Pitch)	-	-	Through Hole	Weidmuller	1716020000	Yes	Yes
L1	1	Inductor	27 mH	30%	Through Hole	Würth Midcom	7446620027	Yes	Yes
L2,L3	2	Use one of two parts; Renco is preferred, but Coilcraft is suitable replacement. Do not mix the two.	800 uH for Renco	10%	Through Hole	Renco preferred	RL-8054-3-821KR38-S	Yes	Yes
			2.2 mH for Coilcraft	10%	Through Hole	Coilcraft	RFB1010-222L	Yes	Yes
Q1 Q2 Q4 Q5	4	NPN Driver Transistor	80 V, 500 mA	-	SOT23	ON Semiconductor	MMBTA06LT1G	No	Yes
Q3	1	N-Channel MOSFET	800 V 2 A	-	DPAK	Infineon	SPD02N80C3	Yes	Yes
R1	1	Wire Jumper	0 ohm	-	-	-	-	Yes	Yes
R2,R3	1	Resistor	5.6K, 1/10 W	5%	0603 SMD	Panasonic	ERJ-3GEYJ562V	Yes	Yes
R4	0	Not Populated	-	-	-	-	-	-	-
R5	0	Not Populated	-	-	-	-	-	-	-
R6 R7 R12 R13	4	Thick Film Resistor	47KΩ, 1 W	5%	2512 SMD	Vishay	CRCW251247K0JNEG	Yes	Yes
R11 R15	2	Resistor	100KΩ, 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF1003V	Yes	Yes
R9 R10	2	Resistor	6.2KΩ, 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF6201V	Yes	Yes
R14	1	Resistor	4.7KΩ, 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF4701V	Yes	Yes
R16 R24	2	Resistor	47KΩ, 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF4702V	Yes	Yes
R17 R18	2	Resistor	100Ω, 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF1000V	Yes	Yes
R19	1	Resistor	10Ω, 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF10R0V	Yes	Yes
R20	1	Metal Film Resistor	0.33Ω, 1 W	5%	Axial	Yageo	FMP100JR-52-0R33	Yes	Yes
R21	1	Resistor	22KΩ, 1/10 W	5%	1206 SMD	Panasonic	ERJ-8GEYJ223V	Yes	Yes
R22 R23 R25	3	Resistor	1KΩ, 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF1001V	Yes	Yes
R26	1	Resistor	16KΩ, 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF1602V	Yes	Yes
R27	1	Resistor	200Ω, 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF2000V	Yes	Yes

R28	1	Resistor	470Ω, 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF4700V	Yes	Yes
R29	1	Resistor	0.2Ω, 1/4 W	1%	1206 SMD	Rohm Semi	MCR18EZHF200	Yes	Yes
R30 R31	2	Resistor	24KΩ, 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF2402V	Yes	Yes
RT1	1	Thermistor	470 Ω, 85C	50%	0603 SMD	Murata	PRF18BE471QB1RB	Yes	Yes
RV1	1	Varistor	300 V, 25 J	-	Radial	Littelfuse	V300LA4P	Yes	Yes
U1	1	Single Stage PFC LED Driver	NCL30000	-	SOIC8	ON Semiconductor	NCL30000DR2G	No	Yes
U2	1	Opto coupler	120V, 30mA	-	SMT4	CEL/NEC	PS2513L-1-A	Yes	Yes
U3	1	Dual Op Amp	LM2904	-	SOIC8	ON Semiconductor	LM2904DR2G	No	Yes
U4	1	Programmable Reference	TL431A	1%	SOIC8	ON Semiconductor	TL431ACDG	No	Yes
T1	1	Transformer, 15 watt	XFMR	-	EFD25	Würth Midcom	750313431 Rev 00	Yes	Yes