



Bill of Materials for the NCL30000LED2GEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1	0	Not Populated	-	-	-	-	-	-	-
C2	1	Metallized Polyester Film X1 (LS = 12.5 mm)	47 nF, 300 VAC	20%	Box	Panasonic	ECQ-U3A473MG	Yes	Yes
C3	1	Metallized Polyester Film (LS=15 mm)	220 nF, 250/275 VAC	20%	Box	Panasonic	ECQ-U2A224ML	Yes	Yes
C4	1	X1 Metallized Polyester Film (LS = 12.5 mm)	100 nF, 300 VAC	20%	Box	Panasonic	ECQ-U3A104MG	Yes	Yes
C5	1	Ceramic Y5U (LS = 7.5 mm)	4700 pF, 2000 V	-20%/5%	Radial Disc	AVX	5SS472SBHCA	Yes	Yes
C6 C8	2	Electrolytic, 5mm dia (LS = 2mm)	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	50V Ceramic	180pF	5%	0603 SMD	Panasonic	ECJ-1VC1H181J	Yes	Yes
C10	1	Y5U X1Y1 (LS=10mm)	4.7 nF, 250 VAC	20%	Radial	Panasonic	CD16-E2GA472MYNS	Yes	Yes
C11 C12	2	Aluminum Electrolytic Y5U (LS =5mm)	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 COG,NPO	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	High Voltage Switching Diode	250 V, 200 mA	-	SOT23	ON Semiconductor	BAS21LT1G	No	Yes
D7 D13	2	Dual Switching Diode	70 V, 200 mA	-	SOT23	ON Semiconductor	BAW56LT1G	No	Yes
D8	1	Zener Diode	5.1 V	-	SOT23	ON Semiconductor	BZX84C5V1LT1G	No	Yes
D9	1	Zener Diode	15 V	-	SOT23	ON Semiconductor	MMBZ5245BLT1	No	Yes
D10	1	Power Rectifier	300 V, 3 A	-	DPAK	ON Semiconductor	MURD330T4G	No	Yes
D11	1	Zener Diode	5.6 V	-	SOT23	ON Semiconductor	BZX84C5V6LT1G	No	Yes
D12	1	Zener Diode	56 V	-	SOT23	ON Semiconductor	BZX84C56LT1G	No	Yes
F1	1	Fusible resistor	33 Ω , 1 W	5%	Axial	Vishay	NFR0100003309JR500	Yes	Yes
J1, J2	2	Screw Connector (0.2" Pitch)	-	-	Through Hole	Weidmuller	1716020000	Yes	Yes
L1	1	Common Mode Choke	27 mH	30%	Through Hole	Würth Midcom	7446620027	Yes	Yes
L2,L3	2	Torroid	470 uH	15%	Through Hole	Würth Midcom	750311505 Rev 6A	Yes	Yes
		Shielded Radial Choke		10%		Renco	RL-8054-1-471KR34-S	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	Fusible resistor	33 Ω , 1 W	5%	Axial	Vishay	NFR0100003309JR500	Yes	Yes
R2,R3	1	Surface Mount Resistor	5.6 k Ω , 1/10 W	5%	0603 SMD	Panasonic	ERJ-3GEYJ562V	Yes	Yes
R4	1	Metal Film Resistor	470 Ω , 1 W	5%	Axial	Vishay	PR01000104700JR500	Yes	Yes
R5	1	Surface Mount Resistor	0 Ω , 1/4 W	1%	1206 SMD	Panasonic	ERJ-8GEY0R00V	Yes	Yes
R6 R12	0	Not Populated	-	-	-	-	-	-	-
R7 R13	2	Surface Mount Resistor	150 k Ω , 1W	5%	2512 SMD	Vishay	CRCW2512150KJNEG	Yes	Yes
R11 R15	2	Surface Mount Resistor	100 k Ω , 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF1003V	Yes	Yes
R9 R10	2	Surface Mount Resistor	6.2 k Ω , 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF6201V	Yes	Yes
R14	1	Surface Mount Resistor	4.7 k Ω , 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF4701V	Yes	Yes
R16 R24	2	Surface Mount Resistor	47 k Ω , 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF4702V	Yes	Yes
R17 R18	2	Surface Mount Resistor	100 Ω , 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF1000V	Yes	Yes
R19	1	Surface Mount Resistor	10 Ω , 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF10R0V	Yes	Yes

R20	1	Metal Film Resistor	0.51 Ω , 1 W	5%	Axial	Panasonic	ERX-1SJ51	Yes	Yes
R21	1	Surface Mount Resistor	22 k Ω , 1/4 W	5%	1206 SMD	Panasonic	ERJ-8GEYJ223V	Yes	Yes
R22 R23 R25	3	Surface Mount Resistor	1 k Ω , 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF1001V	Yes	Yes
R26	1	Surface Mount Resistor	16 k Ω , 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF1602V	Yes	Yes
R27	1	Surface Mount Resistor	200 Ω , 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF2000V	Yes	Yes
R28	1	Surface Mount Resistor	470 Ω , 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF4700V	Yes	Yes
R29	1	Surface Mount Resistor	0.2 Ω , 1/10 W	1%	1206 SMD	Rohm Semi	MCR18EZHLR200	Yes	Yes
R30 R31	2	Surface Mount Resistor	24 k Ω , 1/10 W	1%	0603 SMD	Panasonic	ERJ-3EKF2402V	Yes	Yes
RT1	1	Thermistor PTC	470 Ω , 85C	50%	0603 SMD	Murata	PRF18BE471QB1RB	Yes	Yes
RV1	1	Varistor (LS= 7mm)	300 V, 25 Joule	-	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