



Bill of Materials for the NCL30060LED1GEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
CY	1	Capacitor, Y5U X1Y1	4.7 nF, 250 VAC	20%	Radial	Panasonic	CD16-E2GA472MYNS	Yes	Yes
CX1	0	-	-	-	Box	-	-	-	Yes
CX2	1	Metallized Polyester Film X1	47nF, 300 VAC	20%	Box	Panasonic	ECQ-U3A473MG	Yes	Yes
C2	1	Ceramic	4700 pf, 500 V	10%	1206	TDK	CGJ5H4X7R2H472K115AA	Yes	Yes
C1	1	Metallized Polyester Film X1	220 nF, 300 VAC	20%	Box	Panasonic	ECQ-U2A224ML	Yes	Yes
C4	1	Ceramic COG	2.2 nF, 50 V	10%	0603	TDK	C1608COG1H222K080AA	Yes	Yes
C7	1	Ceramic COG	100 pF, 50 V	5%	0603	TDK	C1608COG1H101J080AA	Yes	Yes
C6	1	Ceramic	10 uF, 35 V	15%	1206	TDK	C3216X7R1V106M	Yes	Yes
C8	1	Ceramic X7R	220 nF, 50 V	10%	1206	TDK	C3216X7R1H224K115AA	Yes	Yes
C9	1	Ceramic X7R	100 nF, 50 V	10%	0603	TDK	C1608X7R1H104K080AA	Yes	Yes
C11,C12	2	Aluminum Electrolytic	680 uF, 63 V	20%	Radial	Nichicon	UPW1J681MHD6	Yes	Yes
C13	1	Ceramic NPO	22 pF, 50 V	5%	0603	TDK	C11608C0G1H220J080AA	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,D7	2	Diode	250 V, 200 mA	-	SOD123	ON Semiconductor	MMSD103T1G	No	Yes
D8	1	RECTIFIER	200 V, 3 A	-	DPAK	ON Semiconductor	MURD320T4G	No	Yes
D9	1	Diode	70 V, 200 mA	-	SOT23	ON Semiconductor	BAW56LT1G	No	Yes
D10	1	ZENER, low current	17V	5%	SOD123	ON Semiconductor	MMSZ4704T1G	No	Yes
D12	1	Diode	250 V, 200 mA	-	SOD123	ON Semiconductor	MMSD103T1G	No	Yes
D13	1	Schottky Rectifier	10V, 2A	-	SMA	ON Semiconductor	MBRA210LT3G	No	Yes
F1	1	Slow Blow TE5 Series	1A	-	Axial	Littelfuse	36911000440	Yes	Yes
J1,J2	2	2 position terminal block		-		Wiedmuller	1716020000	Yes	Yes
L2	1	Dual coil	6mH, 1.6Ω, 500mA	10%	Through Hole	Wurth Midcom	750311895	Yes	Yes
L3	1	drum inductor	2.2 mH	10%	Through Hole	Wurth Midcom	768772222	Yes	Yes
Q1	1	N-Channel MOSFET	800 V 6 A 0.85 Ω	-	DPAK	ON Semiconductor	FCD850N80Z	No	Yes
Q1A	1	-	-	-	TO-220	-	-	-	Yes
Q3	1	NPN Transistor	140V, 600mA	-	SOT23	ON Semiconductor	MMBT5550LT1G	No	Yes
Q5	1	NPN Driver Transistor	80 V, 500 mA	-	SOT23	ON Semiconductor	MMBT A06LT1G	No	Yes
RV1	1	Varistor	300 V, 25 J	-	Radial	Littelfuse	V300LA4P	Yes	Yes
R1,R1A,R2,R6	4	Resistor	5.6K, 1/10 W	5%	0603	Panasonic	ERJ-3GEYJ562V	Yes	Yes
R4	1	Resistor	100Kohm, 1/4 W	5%	1206			Yes	Yes
R7	1	Resistor	5.76Kohm, 1/4 W	1%	1206			Yes	Yes
R10	1	Resistor	51Kohm, 1/10W	1%	0603			Yes	Yes
R11	1	Resistor	1Kohm, 1/10 W	1%	0603			Yes	Yes
R12	1	Resistor	0.1ohm, 1/4W	1%	1206	Rohm Semi	MCR18EZHFLR100	Yes	Yes
R13	1	Resistor	1Kohm, 1/10 W	1%	0603			Yes	Yes
R14	1	Resistor	22Kohm, 1/4W	5%	1206			Yes	Yes
R15	1	Resistor	22Kohm, 1/10W	1%	0603			Yes	Yes
R16	1	Resistor	16Kohm, 1/10W	1%	0603			Yes	Yes
R17	1	Resistor	200 ohm, 1/10W	1%	0603			Yes	Yes
R18	1	Resistor	470 ohm, 1/10W	1%	0603			Yes	Yes
R19,R23	2	Resistor	24Kohm, 1/10W	1%	0603			Yes	Yes
R22	1	Resistor	1Kohm, 1/10W	1%	0603			Yes	Yes

R24	1	Resistor	0.1ohm, 1/4 W	1%	1206	Rohm Semi	MCR18EZHFLR100	Yes	Yes
T1	1	Transformer,25 watt	XFMR	-	EFD25	Würth Midcom	750314098 Rev01	Yes	Yes
U1	1	Single Stage PFC LED Driver	NCL30060	-	SOIC7	ON Semiconductor	NCL30060	No	Yes
U2	1	Opto coupler	80V, 50mA	-	SMT4	NEC Electronics	PS2513L-1-A	Yes	Yes
U3	1	Dual Op Amp	LM2904	-	SOIC8	ON Semiconductor	LM2904DR2G	No	Yes
U4	1	Programmable Reference	NCP431AVSN	1%	SOT23	ON Semiconductor	NCP431AVSNT1G	No	Yes

1-10V Dimming Interface

C41 C43	2	Ceramic COG	1 nF, 50 V	10%	0603	TDK	C1608COG1H102K080AA	Yes	Yes
C42	1	Ceramic X7R	100 nF, 50 V	10%	0603	TDK	C1608X7R1H104K080AA	Yes	Yes
Q41	1	NPN Driver Transistor	80 V, 500 mA	-	SOT23	ON Semiconductor	MMBTA06LT1G	No	Yes
R41	1	Resistor	10k, 1/10 W	1%	0603			Yes	Yes
R42	1	Resistor	1meg, 1/10 W	1%	0603			Yes	Yes
R43	1	Resistor	287k, 1/10 W	1%	0603			Yes	Yes
R44	1	Resistor	2.2k, 1/10 W	1%	0603			Yes	Yes
R45	1	Resistor	220k, 1/10 W	1%	0603			Yes	Yes
R46	1	Resistor	6.2k, 1/10 W	1%	0603			Yes	Yes
R47	1	Resistor	75k, 1/10 W	1%	0603			Yes	Yes
R48	1	Resistor	3.16k, 1/10 W	1%	0603			Yes	Yes
R49	1	Resistor	22k,1/10W	1%	0603			Yes	Yes
R50	1	Resistor	22Kohm,1/4W	5%	1206			Yes	Yes
U41	1	op amp	TLV271	-	TSOP-5	ON Semiconductor	TLV271SN1T1G	No	Yes
U42 U43	1	Programmable Reference	NCP431AVSN	1%	SOT23	ON Semiconductor	NCP431AVSNT1G	No	Yes

Optional PWM Dimming Interface (DNP)

C31	0	Ceramic X7S, DNP	10uF, 6.3V	20%	0603	TDK	C1608X7S0J106M080AC	Yes	Yes
D31	0	ZENER, low current, DNP	5.1V	5%	SOD123	ON Semiconductor	MMSZ4689T1G	No	Yes
R31	0	Resistor, DNP	1k 1/10 W	1%	0603	Various	Various	Yes	Yes
R32	0	Resistor, DNP	1meg, 1/10 W	1%	0603	Various	Various	Yes	Yes
R33	0	Resistor, DNP	10k, 1/10 W	1%	0603	Various	Various	Yes	Yes
R34	0	Resistor, DNP	330k, 1/10 W	1%	0603	Various	Various	Yes	Yes
R35	0	Resistor, DNP	22Kohm,1/4W	5%	1206	Various	Various	Yes	Yes
U31	0	Schmitt Buffer, DNP	NL17SZ17	-	SC-88A	ON Semiconductor	NL17SZ17DFT2G	No	Yes
U32	0	Programmable Reference, DNP	NCP431AVSN	1%	SOT23	ON Semiconductor	NCP431AVSNT1G	No	Yes