



Bill of Materials for the NCL30051LEDGEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
D1, D2, D3, D4, D9, D12	6	Diode	1A, 800V	-	SMA	ON Semiconductor	MRA4007	No	Yes
D5	1	Diode	3A, 600V	-	axial lead	ON Semiconductor	1N5406	No	Yes
D7, D8, D10, D11	4	Ultrafast diode	1A, 600V	-	SMA	ON Semiconductor	MURA160	No	Yes
D13, D14, D15	3	Signal diode	100mA, 100V	-	SOD123	ON Semiconductor	MMSD4148T	No	Yes
D6	1	UFR diode	3A, 600V	-	SMB	ON Semiconductor	MURS360BT3G	No	Yes
D16	1	Schottky diode	10A, 150V	-	TO-220	ON Semiconductor	MBRF10H150	No (Tentative)	Yes
Z1A, Z1B	2	Zener diode	18V	5%	SOD123	ON Semiconductor	MMSZ5248B	No	Yes
Z2	1	Zener diode	15V	5%	SOD123	ON Semiconductor	MMSZ5245B	No	Yes
Q5	1	Mosfet	40V, 100 mA	-	SOT23	ON Semiconductor	2N7002KT1G	No	Yes
Q1	1	Mosfet	9A, 650V	-	TO-220	Infineon	IPA60R385CP	No	Yes
Q2A, Q2B	2	Mosfet	4A, 600V	-	D-Pak	ON Semiconductor	NDD04N60ZT	No	Yes
Q6, Q7, Q8	3	BJT	60V, 500 mA	-	SOT23	ON Semiconductor	MMBTA06LT1G	No	Yes
Q4	1	BJT	100V, 4A	-	DPak4	ON Semiconductor	MJD243G	No	Yes
Q10	1	BRT BJT	50V, 100mA	-	SOT23	ON Semiconductor	MMUN2212L	No	Yes
Q3, Q9	2	BJT	60V, 500 mA	-	SOT23	ON Semiconductor	MMBT2907A	No	Yes
U1	1	Main controller	-	-	SOIC16	ON Semiconductor	NCL30051	No	Yes
U2, U3	2	Optocoupler	-	-	4 pin SMD	Vishay	H11A817 or SFH6156A-4	Yes	Yes
U4	1	Dual amp + zener	-	-	SOIC-8	ON Semiconductor	NCS1002	No	Yes
C1, C2	2	X caps	0.22uF, 270 Vac	18mm x 6mm	LS=15mm	Rifa PHE series	Box cap - X2 (PHE840MX6220MB06R17)	Yes	Yes
C27	1	Y2 cap	2.2 nF, 1kV	5%	LS = 10 mm	Rifa, Wima, Vishay	Box or Disc Y2 cap (PHE850EA4220MA01R17)	Yes	Yes
C3	1	Polyprop. Film	0.22 uF, 600V	10%	LS=22.5 mm	Wima MKP10	Polypropylene film cap (MKP10-.22/400/10)	Yes (Polyprop.)	Yes
C6, C7	2	Film cap (poly)	0.1 uF, 400V	5%	LS=22.5mm	Wima MKP10	Polypropylene film cap (MKP10-.1/400/5P15)	Yes	Yes
C11, C15, C23, C26, C30	5	Ceramic Cap	0.1 uF, 50V	10%	1206	TDK	100 nF, 50V Ceramic Cap (C3216X7R2A104K)	Yes (High-Quality Ceramic OK)	Yes
C25	1	Ceramic Cap	0.22, 25V min	10%	1206	TDK	220 nF, 25V min Ceramic Cap (C3216X7R1E224K)	Yes	Yes
C20, C21	2	Ceramic Cap	0.1 uF, 100V	10%	1210	Vishay	100 nF, 100V Ceramic Cap (VJ1206Y104KBBAT4X)	Yes	Yes
C22, C28	2	Ceramic Cap	1.0 uF, 25V	10%	1206	TDK	1 uF, 25V min Ceramic Cap (C3216X7R1E105K/0.85)	Yes	Yes
C14, C24	2	Ceramic Cap	1 nF, 50V	10%	1206	TDK	1 nF Ceramic Cap (C1206C102K1RACTO)	Yes	Yes
C13	1	Ceramic Cap	0.68uF, 25V	10%	1206	TDK	0.68 uF Ceramic Cap, 25Vmin (C3216X7R1H684K)	Yes	Yes
C17	1	Ceramic Cap	1.8 nF, 50V	10%	1206	Vishay	1.8 nF Ceramic Cap(VJ1206Y182KBAAT4X)	Yes	Yes
C12	1	Ceramic Cap	100 pF, 50V	10%	1206	TDK	Ceramic Cap (VJ1206Y101KBAAT4X)	Yes	Yes
C10	1	Ceramic Cap	820 pF, 100V	5%	1206	TDK	ceramic or film cap (Temp stable) (VJ1206Y821KBBAT4X)	Yes	Yes
C29	1	Ceramic Cap	10 nF, 50V	10%	1206	Yageo	Ceramic Cap (CC1206KRX7R9BB103)	Yes	Yes
C8	1	Ceramic Cap	5.6 nF, 100V	10%	1206	Vishay	Ceramic Cap (VJ1206Y562KBBAT4X)	Yes	Yes
C9	1	Ceramic Cap	0.22 uF, 25V min	10%	1206	TDK	Ceramic Cap (C3216X7R1E224K)	Yes	Yes
C18, C19	2	film cap	4.7uF, 100V	32 x 11mm	LS=28mm	Panasonic, Xicon	Radial lead box cap (B32524Q3475K)	Yes	Yes
C16	1	electrolytic cap	330 uF, 35V	10%	LS = 5mm	Rubycon, UCC, Nich.	Radial lead	Yes	Yes
C4, C5	2	electrolytic cap	82uF, 300 or 400V	10%	LS = 10 mm	Rubycon, UCC, Nich.	Snap in radial lead (ECO-S2GA820CA)	Yes	Yes
R2	1	0.5W Resistor	0.15 ohms	5%	2512	Yageo	1/2W SMD Resistor (PT2512FK-070R15L)	Yes	Yes
R3, R4	2	0.5W Resistor	560K	10%	axial lead	Vishay/BC Components	1/2W metal film Resistor (HVR3700005603JR500)	Yes	Yes
R11, R12	2	0.5W Resistor	680K	5%	axial lead	Vishay	1/2W metal film Resistor	Yes	Yes
R14, R18	2	0.5W Resistor	2.7Meg	5%	axial lead	Vishay	1/2W metal film Resistor (HVR3700002704JR500)	Yes	Yes
R10	1	0.5W Resistor	4.7K, 0.5W	10%	axial lead	KOA	1/2W metal film Resistor (MF1/2DCT52R4701F)	Yes	Yes
R21	1	0.5W Resistor	15K, 0.5W	10%	axial lead	KOA	1/2W metal film Resistor	Yes	Yes
R22	1	0.5W Resistor	0.10 ohms	5%	2512	Panasonic - ECG	1/2W SMD Resistor (ERJ-L1WKJ10CU)	Yes	Yes
R7	1	0.25W Resistor	10 ohms	5%	axial lead	Vishay	1/4W metal film Resistor	Yes	Yes
R1A, R1B	2	0.125W Resistor	562K	1%	1206	Vishay	1/8W SMD Resistor (CRCW12065623F)	Yes	Yes
R5, R6, R17, R36, R37, R38, R41	7	0.125W Resistor	10K	1%	1206	Vishay	1/8W SMD Resistor (CRCW12061002F)	Yes	Yes
R31	1	0.125W Resistor	100 ohms	1%	1206	Vishay	1/8W SMD Resistor (CRCW1206100RF)	Yes	Yes
R8, R40	2	0.125W Resistor	1.2K	1%	1206	Vishay	1/8W SMD Resistor (CRCW12061211F)	Yes	Yes
R9	1	0.125W Resistor	27.4K	1%	1206	Vishay	1/8W SMD Resistor (CRCW12062742F)	Yes	Yes
R19	1	0.125W Resistor	26.1K	1%	1206	Vishay		Yes	Yes

