



Bill of Materials for the NCP1251GEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free	Comments
D9 (12Vout)	1	Schottky diode	3A, 60V	-	SMC	ON Semi	MBRS360T3G	No	Yes	12V version
D9 (5Vout)	1	Schottky diode	5A, 40V	-	SMC	ON Semi	MBRS540T3	No	Yes	5V version
Q1	1	Mosfet - NDD04N60Z	4A, 600V	-	DPak	ON Semi	NDD04N60Z	No	Yes	-
D1, 2, 3, 4, 8	5	Diode - 60 Hz,	1A, 800V	-	SMA	ON Semi	MRA4007	No	Yes	-
D5	1	Diode - fast recov	1A, 600V	-	axial lead	ON Semi	1N4937	No	Yes	-
D6, D7	2	Signal diode	100mA, 100V	-	SOD-123	ON Semi	MMSD4148A	No	Yes	-
Z1	1	Zener diode	27V (OVP)	-	SOD-123	ON Semi	MMSZ5254B	No	Yes	-
U3	1	Programmable zener	2.5V	-	SOIC8 / SOT23	ON Semi	NCP431A	No	Yes	-
U2	1	Optocoupler	CTR >= 0.5	-	4-pin	Vishay or NEC	SFH6156A-4 or PS2561L-1	Yes	Yes	-
U1	1	Controller - NCP1251B	100 kHz	-	TSOP6	ON Semi	NCP1251BSN100	No	Yes	-
C1, C2	2	"X" cap, box type	100nF, X2	20%	LS = 15 mm	Rifa, Wima	Digi-Key P/N = 399-5426-ND	Yes	Yes	-
C12	1	"Y1" cap, disc type	1nF, Y1	20%	LS = 7.5 mm	Rifa, Wima	Mouser P/N = 75-WKP102MCPEJ0KR	Yes	Yes	-
C4	1	Ceramic cap, disc	4.7nF, 1kV	5%	LS = 7.5 mm	Rifa, Wima	Digi-Key P/N = 490-4266-ND	Yes	Yes	-
C5	1	Ceramic cap, monolythic	1 nF, 50V	10%	1206	AVX, Murata	Digi-Key P/N = 311-1170-1-ND	Yes	Yes	-
C10, 11, 13	3	Ceramic cap, monolythic	100nF, 50V	10%	1206	AVX, Murata	Digi-Key P/N = 311-1179-1-ND	Yes	Yes	-
C7	1	Ceramic cap, monolythic	220pF, 50V	5%	1206	AVX, Murata	Digi-Key P/N = 478-1484-1-ND	Yes	Yes	-
C8	1	Ceramic cap, monolythic	10nF, 50V	5%	1206	AVX, Murata	Digi-Key P/N = 445-7688-1-ND	Yes	Yes	-
C3	1	Electrolytic cap	47uF, 400V	10%	LS=7.5mm, D=16mm	UCC, Panasonic	Mouser P/N = 647-UCY2G470MHD	Yes	Yes	-
C6	1	Electrolytic cap	10uF, 25Vdc	10%	LS=2.5mm, D=6.3mm	UCC, Panasonic	Digi-Key P/N = 565-1055-ND	Yes	Yes	-
C9A, C9B	2	Electrolytic cap	1000uF, 16V	10%	LS=5mm, D=12.5mm	UCC, Panasonic	Mouser P/N = 661-EKY160ELL102MK1	Yes	Yes	12V version
(5Vout)	2	Electrolytic cap	3300uF, 6.3V	10%	LS=5mm, D=12.5mm	UCC, Panasonic	Newark P/N = 23K4009	Yes	Yes	5V version
R1	1	Resistor, 3W, Wire wound	4.7 ohm, 3W	5%	LS=7.5mm, D=7mm	Ohmite, Dale	Digi-Key P/N = 4.7AECT-ND	Yes	Yes	-
R2	1	Resistor, 1W, metal film	43K, 1W	5%	Axial lead; LS=25mm	Ohmite, Dale	Digi-Key P/N = PPC43KW-1CT-ND	Yes	Yes	-
R8A/B	2	Resistor, 1/2W metal film	2 ohms, 1/2W	1%	Axial lead; LS=12.5mm	Ohmite, Dale	Mouser P/N = 660-MF1/2DCT52R2R00F	Yes	Yes	-
R6	1	Resistor, 1/4W SMD	10 ohms	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-10.0FCT-ND	Yes	Yes	-
R3, R4	2	Resistor, 1/4W SMD	470K	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-470KFCT-ND	Yes	Yes	-
R7, 13, 14	3	Resistor, 1/4W SMD	10K	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-10.0KFCT-ND	Yes	Yes	-
R11 (12Vout)	1	Resistor, 1/4W SMD	1K	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-1.00KFCT-ND	Yes	Yes	12V version
R11 (5Vout)	1	Resistor, 1/4W SMD	240 ohms	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-240FCT-ND	Yes	Yes	5V version
R5	1	Resistor, 1/4W SMD	Zero ohm	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-0.0ECT-ND	Yes	Yes	-
R9, 10, 15	3	Resistor, 1/4W SMD	1K	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-1.00KFCT-ND	Yes	Yes	-
R16	1	Resistor, 1/4W SMD	3K	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-3.00KFCT-ND	Yes	Yes	-
R12 (12Vout)	1	Resistor, 1/4W SMD	39K	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-39.0KFCT-ND	Yes	Yes	12V version
R12 (5Vout)	1	Resistor, 1/4W SMD	10K	1%	SMD 1206	AVX, Vishay, Dale	Digi-Key P/N = 541-10.0KFCT-ND	Yes	Yes	5V version
F1	1	Fuse, TR-5 style	2A	-	TR-5, LS=5mm	Minifuse	Newark P/N = 67K2094	Yes	Yes	-
L1A/B	1	Inductor (EMI choke)	820 uH, 500 mA	-	See Würth Drawing	Würth Magnetics	7447728215	Yes	Yes	-
T1 (12Vout)	1	Transformer	E20/10/6 core	-	See Mag Drawing	Würth Magnetics	750312495	Yes	Yes	12V version
T1 (5Vout)	1	Transformer	E20/10/6 core	-	See Mag Drawing	Würth Magnetics	750312279	Yes	Yes	5V version
J1, J2	2	Screw Terminal	-	-	LS = 0.2"	DigiKey	# 281-1435-ND	Yes	Yes	-
J1, J2	2	Screw Terminal	-	-	LS = 0.2"	DigiKey	# 281-1435-ND	Yes	Yes	-

*Green indicates part change with Vout change