



Bill of Materials for the NCV7685GEVB Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1 C2 C3 C4 C5 C8 C9 C10 C11 C14	10	CAP CER 10UF 6.3V X7R 0805	10uF		0805	Murata	GCM21BR70J106KE22	Yes	Yes
C6 C7 C12 C13	4	Generic 0603-1206 SMD Capacitor	DNI		0603-1206			Yes	Yes
C15 C16	2	Generic 0603 SMD Capacitor	10nF		0603	Murata	GCM188R72A103KA37	Yes	Yes
C17 C18	2	CAP CER 1UF 10V X7S 0402	1uF		0402	Murata	GCM155C71A105KE38	Yes	Yes
C19 C20 C32 C35 C37 C39	6	CAP CER 1UF 16V X5R 0402	1uF		0402	Murata	GRM155R61C105KA12	Yes	Yes
C21 C23	2	CAP CER 4.7UF 35V X7S 0805	4.7uF		0805	Murata	GCM21BC7YA475KE36	Yes	Yes
C22	1	Generic 0402 SMD Capacitor	1nF		0402	Murata	GCM155R71H102KA37	Yes	Yes
C24 C27 C29 C31 C33 C34	6	Generic 0402 SMD Capacitor	4.7uF		0402	Murata	GRM155R60J475ME47	Yes	Yes
C25 C26	2	Generic 0402 SMD Capacitor	12.5pF		0402	Murata	GRM1555C1E120JA01	Yes	Yes
C28 C30	2	CAP CER 7.5PF 50V C0G/NPO 0402	7.5pF		0402	Murata	GJM1555C1H7R5CB01D	Yes	Yes
C36 C40	2	CAP CER 0.1UF 50V X7R 0402	0.1uF		0402	Murata	GCM155R71H104ME02	Yes	Yes
C38	1	CAP CER 10UF 25V X5R 0603	10uF		0603	Murata	GRM188R61E106MA73	Yes	Yes
D1 D4	2	Red LED	150060RS75000		0603	Wurth Elektronik	150060RS75000	Yes	Yes
D2	1	DIODE ZENER 2.7V 250MW SOD923	NZ9F2V7		SOD-923	ON Semiconductor	NZ9F2V7T5G	No	Yes
D3	1	DIODE ZENER 3.3V 250MW SOD923	SZ9F3V3		SOD-923	ON Semiconductor	SZ9F3V3T5G	No	Yes
D5	1	Green LED	150060GS75000		0603	Wurth Elektronik	150060GS75000	Yes	Yes
D6	1	Blue LED	150060BS75000		0603	Wurth Elektronik	150060BS75000	Yes	Yes
D7	1	Yellow LED	150060YS75000		0603	Wurth Elektronik	150060YS75000	Yes	Yes
D8 D9	2	Schottky Barrier Diode, 2.0 A, 20 V	NSR20F20NX		DSN2 0603	ON Semiconductor	NSR20F20NX	No	Yes
D10	1	Auto ESD Protection Diodes	SESD7L		SOT-723	ON Semiconductor	SESD7L5.0	No	Yes
FB1	1	Ferrite bead/Impedance type filter	220@100M		0805	Murata	BLM21AG221SN1	Yes	Yes
J1 J2 J13 J14	4	PLASTIC HEXAGON NUT M3	709940300		M3 Nut	Wurth	709940300	Yes	Yes
J3 J4 J5	3	Rectangle power pad 200x300 mils	DNI		200x300mil			Yes	Yes
J6 J7	2	Standard 1x2pin 100mil Pitch Header	613 002 111 21		1x2pin 100mil	Wurth Elektronik	613 002 111 21	Yes	Yes
J8 J9	2	Red Insulated 4mm socket for banana plugs	571-0500		Red Banana Rec	Deltron	571-0500	Yes	Yes
J10	1	DLT 8 pin connector	IPBS-104-01-T-D-GP		2x4pin 165mil	Samtec	IPBS-104-01-T-D-GP	Yes	Yes
J11 J12	2	Black Insulated 4mm socket for banana plugs	571-0100		Black Banana Rec	Deltron	571-0100	Yes	Yes
J15 J16 J19 J20	4	PLASTIC SPACER STUD METRIC THREAD M3 10MM	971100365		M3 10MM	Wurth	971100365	Yes	Yes
J17	1	Standard Arm Cortex Debug Connector	FTSH-105-01-F-DV-K		2x5pin 50mil Cortex Debug	Samtec	FTSH-105-01-F-DV-K	Yes	Yes
J18	1	Mini USB1/2 Type-B Connector	65100516121		Mini USB1/2 B	Wurth Elektronik	65100516121	Yes	Yes
JP1 JP2	2	Surface Mount High Current Jumper Chip Resistor	DNI		0603	Stackpole Electronics	HCJ0603ZT0R00	Yes	Yes
JP3	1	Surface Mount High Current Jumper Chip Resistor	DNI		0402	Stackpole Electronics	HCJ0402ZT0R00	Yes	Yes

L1	1	Generic 5x5mm Inductor	330 nH		5x5mm	Würth	784383360033	Yes	Yes
Q1	1	Automotive Small Signal MOSFET 60V 340mA 2.5 Ohm Single N-Channel SOT-323	2V7002W		SOT-323	ON Semiconductor	2V7002W	No	Yes
Q2 Q3 Q4	3	Small Signal MOSFET 60V 340mA 2.5 Ohm Single N-Channel SOT-323	2N7002W		SOT-323	ON Semiconductor	2N7002W	No	Yes
R1 R2 R4 R13 R15 R16 R17 R23 R29	9	RES SMD 10K OHM 1% 1/16W 0402	10K		0402	Vishay	CRCW040210K0FK	Yes	Yes
R3	1	RES SMD 10 OHM 1% 1/16W 0402	10		0402	Vishay	CRCW040210R0FK	Yes	Yes
R5	1	Generic 2512 SMD Resistor	7mOhm		2512	Rohm Semiconductor	PMR100HZPFU7L00	Yes	Yes
R6	1	Generic 2512 SMD Resistor	4mOhm		2512	Rohm Semiconductor	PMR100HZPFV4L00	Yes	Yes
R7 R8 R9 R10	4	RES SMD 4.75 OHM 1% 1/10W 0603	4.75		0603	Vishay	CRCW06034R75FK	Yes	Yes
R11 R14 R20	3	RES SMD 1K OHM 1% 1/10W 0603	1K		0603	Vishay	CRCW06031K00FK	Yes	Yes
R12	1	RES SMD 5.11K OHM 1% 1/10W 0603	5.11K		0603	Vishay	CRCW06035K11FK	Yes	Yes
R18	1	RES SMD 3.83K OHM 1% 1/16W 0402	3.83K		0402	Vishay	CRCW04023K83FK	Yes	Yes
R19	1	RES SMD 20K OHM 1% 1/16W 0402	20K		0402	Vishay	CRCW040220K0FK	Yes	Yes
R21 R22	2	RES SMD 4.99K OHM 1% 1/16W 0402	4.99K		0402	Vishay	CRCW04024K99FK	Yes	Yes
R24	1	RES SMD 5.11K OHM 1% 1/16W 0402	5.11K		0402	Vishay	CRCW04025K11FK	Yes	Yes
R25	1	RES SMD 8.87K OHM 1% 1/16W 0402	8.87K		0402	Vishay	CRCW04028K87FK	Yes	Yes
R26	1	RES SMD 9.76K OHM 1% 1/16W 0402	9.76K		0402	Vishay	CRCW04029K76FK	Yes	Yes
R27	1	RES SMD 665 OHM 1% 1/16W 0402	665		0402	Vishay	CRCW0402665RFFK	Yes	Yes
R28 R32	2	RES SMD 100 OHM 1% 1/16W 0402	100		0402	Vishay	CRCW0402100RFFK	Yes	Yes
R30	1	RES SMD 100 OHM 1% 1/10W 0603	100		0603	Vishay	CRCW0603100RFFK	Yes	Yes
R31	1	RES SMD 2.32K OHM 1% 1/16W 0402	2.32K		0402	Vishay	CRCW04022K32FK	Yes	Yes
SW1	1	SWITCH TACTILE SPST-NO 0.05A 12V	434153017835		MOM1 SMD	Würth Elektronik	434153017835	Yes	Yes
TP1 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP16 TP18 TP20 TP22	17	Passive Probe Tip Tektronix P5050 (Tan) Tip	DNI		0.75mm			Yes	Yes
TP2	1	63mil Hole 100mil Pad	DNI		63mil			Yes	Yes
TP15 TP17 TP19 TP21 TP23	5	Surface Mount 1mm Circle Test Point	DNI		1mm Circle			Yes	Yes
U1	1	Configurable 5.0 A AOT Step Down Converter	NCV6356Q		WDFNW14 4x3	ON Semiconductor	NCV6356QMTWTXG	No	Yes
U2	1	Digital Temperature Sensor with 2-wire Interface	NCT375		DFN8 2x2mm	ON Semiconductor	NCT375MNR2G	No	Yes
U3 U4	2	Current-Shunt Monitor, Voltage Output, Bi-Directional Zero-Drift, Gain = 100V/V	NCV214R		SC-70-6	ON Semiconductor	NCV214RSQT2G	No	Yes
U5	1	Low Quiescent Current, Programmable Delay Time, Supervisory Circuit	NCP308MTADJTBG		WDFN6 2x2mm	ON Semiconductor	NCP308MTADJTBG	No	Yes
U6	1	EFM32 Giant Gecko 32-bit Microcontroller	EFM32GG380F1024		QFP100 14x14	Silicon Labs	EFM32GG380F1024-QFP100	Yes	Yes
U7	1	3.3V Voltage Regulator, LDO, Ultra Low Noise, Ultra Low Iq, 500 mA	NCP705		WDFN6	ON Semiconductor	NCP705MT33TCG	No	Yes
U8	1	USB to BASIC UART IC	FT230X		QFN16 4x4	FTDI	FT230XQ-R	Yes	Yes
Y1	1	Crystals 32.768 kHz 12.5 pF +/- 20 PPM -40/+85C	32.768 kHz		2 pin w/ shell	Micro Crystal	IR-32.768kHz-12.5pF-20PPM-T	Yes	Yes
Y2	1	CRYSTAL 48.0000MHZ 8PF SMD	48MHz		5x3.2mm	NDK	5032GA-48.000000MHZ-LN-CC	Yes	Yes