

Bill of Materials for the STR-NCP45560-ECOSWITCH-GEVB Evaluation Board

ON Semiconductor®



Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
C1	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
C2 C15	2	Generic 0603 SMD Capacitor	10nF		0603	Murata	GCM188R72A103KA37D	Yes	Yes
C3 C5 C6 C7 C8 C9 C17 C19 C30 C32	10	CAP CER 10UF 25V X5R 0603	10uF		0603	Murata	GRM188R61E106MA73D	Yes	Yes
C4	1	DNI	DNI		DNI	DNI	DNI	Yes	Yes
C10 C12 C16 C20 C22 C23 C25 C28 C35 C41 C45	11	CAP CER 1UF 16V X5R 0402	1uF		0402	Murata	GRM155R61E105KA12D	Yes	Yes
C11 C43 C44	3	CAP CER 1UF 10V X7S 0402	1uF		0402	Murata	GCM155C71A105KE38D	Yes	Yes
C13	1	CAP CER 4700PF 50V C0G 0603	4700pF		0603	Murata	GRM1885C1H472JA01D	Yes	Yes
C14	1	CAP CER 3300PF 50V C0G 0603	3300pF		0603	Murata	GRM1885C1H332JA01D	Yes	Yes
C18	1	CAP CER 1uF 25V X6S 0402	1uF		0402	Murata	GRM155C81E105KE11D	Yes	Yes
C21	1	10nF 0603 SMD Capacitor	10nF		0603	Murata	GCM188R72A103KA37D	Yes	Yes
C24	1	WCAP-PTG5 Aluminum Polymer Capacitors	330uF		Radial 10x5mm	Würth Electronics	870025575009	Yes	Yes
C26 C27 C31 C33 C34 C42	6	CAP CER 4.7UF 6.3V X5R 0402	4.7uF		0402	Murata	GRM155R60J475ME47D	Yes	Yes
C29 C40	2	CAP CER 0.1UF 50V X7R 0402	0.1uF		0402	Murata	GCM155R71H104ME02D	Yes	Yes
C36 C39	2	CAP CER 12PF 50V C0G/NP0 0402	12pF		0402	Murata	GJM1555C1H120JB01D	Yes	Yes
C37 C38	2	CAP CER 7.5PF 50V C0G/NP0 0402	7.5pF		0402	Murata	GJM1555C1H7R5CB01D	Yes	Yes
C46 C47	2	Generic 0402-0603 SMD Capacitor	1nF		0402	Murata	GCM155R71H102KA37D	Yes	Yes
D1 D7	2	Green LED	150060GS75000		0603	Würth Elektronik	150060GS75000	Yes	Yes
D2	1	30 V Schottky Diode	NSR05F30NX		DSN2 0402	ON Semiconductor	NSR05F30NXT5G	No	Yes
D3 D4 D8	3	Red LED	150060RS75000		0603	Würth Elektronik	150060RS75000	Yes	Yes
D5	1	Yellow LED	150060YS75000		0603	Würth Elektronik	150060YS75000	Yes	Yes
D6	1	Blue LED	150060BS75000		0603	Würth Elektronik	150060BS75000	Yes	Yes
D9	1	ESD Protection Diodes	ESD7L		SOT-723	ON Semiconductor	ESD7L5.0T5G	No	Yes
D10 D11	2	Schottky Barrier Diode, 2.0 A, 20 V	NSR20F20NX		DSN2 0603	ON Semiconductor	NSR20F20NXT5G	No	Yes
D12	1	DIODE ZENER 6.8V 250MW SOD923	NZ9F6V8		SOD-923	ON Semiconductor	NZ9F6V8T5G	No	Yes
FB1	1	Ferrite bead/Impedance type filter	220@100M		0805	Würth	742792022	Yes	Yes
J1 J8 J11 J14	4	Standard 1x2pin 100mil Pitch Header	613 002 111 21		1x2pin 100mil	Würth Elektronik	61300211121	Yes	Yes
J2 J3 J16 J17	4	PLASTIC HEXAGON NUT M3	709940300		M3 Nut	Würth	709940300	Yes	Yes
J4 J6 J9 J10	4	PC TEST POINT COMPACT	5016		Test Loop	Keystone	5016	Yes	Yes
J5 J7 J12 J13	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
J15	1	Standard 1x3pin 100mil Pitch Header (I2C Specific)	613 003 111 21		1x3pin 100mil	Würth Elektronik	61300311121	Yes	Yes
J18 J19 J26 J27	4	PLASTIC SPACER STUD METRIC THREAD M3 15MM F-M	971150365		M3 15MM	Würth	971150365	Yes	Yes
J20 J21	2	Red Insulated 4mm socket for banana plugs	571-0500		Red Banana Rec	Deltron	571-0500	Yes	Yes

J22 J23	2	Black Insulated 4mm socket for banana plugs	571-0100		Black Banana Rec	Deltron	571-0100	Yes	Yes
J24	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
J25	1	Mini USB1/2 Type-B Connector	65100516121		Mini USB1/2 B	Würth Elektronik	65100516121	Yes	Yes
JP1	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
JP2	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
JP3	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
L1	1	Murata Metal Alloy Chip Power Inductor	1.0uH		1.6x0.8mm	Murata	DFE18SAN1R0ME0L	Yes	Yes
Q1 Q2	2	Small Signal MOSFET 60V 115mA 7.5 Ohm Single N-Channel SOT-23	2N7002L		SOT-23	ON Semiconductor	2N7002L	No	Yes
Q3 Q4 Q5	3	Small Signal MOSFET 60V 340mA 2.5 Ohm Single N-Channel SOT-323	2N7002W		SOT-323	ON Semiconductor	2N7002W	No	Yes
Q6	1	Generic SO8-FL DFN-5 N-Channel Power MOSFET	NTMF55C426N		SO8-FL DFN-5	On Semiconductor	NTMF55C426NT1G	No	Yes
Q7 Q8	2	Automotive Small Signal MOSFET 60V 340mA 2.5 Ohm Single N-Channel SOT-323	2V7002W		SOT-323	ON Semiconductor	2V7002W	No	Yes
R1 R3 R11 R12	4	RES SMD 4.75 OHM 1% 1/10W 0603	4.75		0603	Vishay	CRCW06034R75FKEA	Yes	Yes
R2	1	4 Terminal Sense Resistor 0.002 Ohm	0.002		3637	Vishay	WSL36372L000FEA	Yes	Yes
R4	1	RES SMD 806 OHM 1% 1/8W 0805	806		0805	Vishay	CRCW0805806RFKEA	Yes	Yes
R5 R6 R8 R9 R10 R13 R14 R28 R32 R39 R43 R48 R49	13	RES SMD 10K OHM 1% 1/16W 0402	10K		0402	Vishay	CRCW040210K0FKED	Yes	Yes
R7	1	RES SMD 8.87K OHM 1% 1/10W 0603	8.87K		0603	Vishay Dale	CRCW06038K87FKEA	Yes	Yes
R15	1	RES SMD 240 OHM 0.1% 1/16W 0402	240		0402	Panasonic	ERA-2AEB241X	Yes	Yes
R16	1	RES SMD 13K OHM 0.1% 1/10W 0603	13K		0603	Panasonic	ERA-3AEB133V	Yes	Yes
R17	1	RES SMD 7.68K OHM 0.1% 1/16W 0402	7.68K		0402	Panasonic	ERA-2AEB7681X	Yes	Yes
R18	1	RES SMD 130K OHM 0.1% 1/10W 0603	130K		0603	Panasonic	ERA-3AEB134V	Yes	Yes
R19	1	RES SMD 1K OHM 1% 1/10W 0603	1K		0603	Vishay	CRCW06031K00FKEA	Yes	Yes
R20	1	RES SMD 14.7K OHM 0.1% 1/16W 0402	14.7K		0402	Panasonic	ERA-2AEB1472X	Yes	Yes
R21	1	RES SMD 4.75K OHM 0.1% 1/16W 0402	4.75K		0402	Panasonic	ERA-2AEB4751X	Yes	Yes
R22 R23	2	RES SMD 10K OHM 0.1% 1/16W 0402	10K		0402	Panasonic	ERA-2AEB103X	Yes	Yes
R24 R25	2	RES SMD 2K OHM 0.1% 1/16W 0402	2K		0402	Panasonic	ERA-2AEB202X	Yes	Yes
R26	1	RES SMD 1.5K OHM 0.1% 1/16W 0402	1.5K		0402	Panasonic	ERA-2AEB152X	Yes	Yes
R27	1	RES SMD 1.24K OHM 0.1% 1/16W 0402	1.24K		0402	Panasonic	ERA-2AEB1241X	Yes	Yes
R29	1	RES SMD 100 OHM 1% 1/10W 0603	100		0603	Vishay	CRCW0603100RFKEAC	Yes	Yes
R30	1	RES 0.005 OHM 1% 3W 2512	0.005		2512	Bourns Inc.	CRE2512-FZ-R005E-3	Yes	Yes
R31	1	RES SMD 665 OHM 1% 1/16W 0402	665		0402	Vishay	CRCW0402665RFKED	Yes	Yes
R33	1	RES SMD 9.76K OHM 1% 1/16W 0402	9.76K		0402	Vishay	CRCW04029K76FKED	Yes	Yes
R34	1	RES SMD 8.87K OHM 1% 1/16W 0402	8.87K		0402	Vishay	CRCW04028K87FKED	Yes	Yes
R35 R38 R47	3	RES SMD 100 OHM 1% 1/16W 0402	100		0402	Vishay	CRCW0402100RFKED	Yes	Yes
R36 R41 R42	3	RES SMD 5.11K OHM 1% 1/16W 0402	5.11K		0402	Vishay	CRCW04025K11FKED	Yes	Yes
R37	1	RES SMD 2.32K OHM 1% 1/16W 0402	2.32K		0402	Vishay	CRCW04022K32FKED	Yes	Yes
R40	1	RES 0 OHM JUMPER 1/10W 0603	0		0603	Vishay Dale	CRCW06030000Z0EAC	Yes	Yes
R44	1	RES SMD 3.24K OHM 1% 1/16W 0402	3.24K		0402	Vishay	CRCW04023K24FKED	Yes	Yes
R45	1	RES SMD 9.09K OHM 1% 1/16W 0402	9.09K		0402	Vishay	CRCW04029K09FKED	Yes	Yes
R46	1	RES SMD 2.1K OHM 1% 1/16W 0402	2.1K		0402	Vishay	CRCW04022K10FKED	Yes	Yes

SW1	1	SWITCH TACTILE SPST-NO 0.05A 12V	434153017835		MOM1 SMD	Wurth Elektronik	434153017835	Yes	Yes
TP1 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP15	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
TP2	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
TP16 TP18 TP19 TP20 TP22	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
TP17 TP21 TP23 TP24 TP25 TP26	0	DNI	DNI		DNI	DNI	DNI	Yes	Yes
U1	1	IC LOAD SWITCH HIGH SIDE 24A 12DFN	NCP45560		DFN13 3x3mm	ON Semiconductor	NCP45560IMNTWG-H	No	Yes
U2 U4	2	Current-Shunt Monitor, Voltage Output, Bi-Directional Zero-Drift, Gain = 50V/V	NCS213R		SC-70-6	ON Semiconductor	NCS213RSQT2G	No	Yes
U3	1	Digital Temperature Sensor with 2- wire Interface	NCT375		DFN8 2x2mm	ON Semiconductor	NCT375MNR2G	No	Yes
U5	1	Low Power, Zero-Drift Operational Amplifier	NCS333		SOT23-5	ON Semiconductor	NCS333ASN2T1G	No	Yes
U6	1	Boost Controller, PFM, 25Vout Max, 25 mA, with Enable	NCP1406		TSOP-5	ON Semiconductor	NCP1406SNT1G	No	Yes
U7	1	SPDT 1Ohm Ron Digital Switch	NLAS4157		SOT-363	ON Semiconductor	NLAS4157DFT2G	No	Yes
U8	1	EFM32 Giant Gecko 32-bit Microcontroller	EFM32GG380F1024		QFP100 14x14	Silicon Labs	EFM32GG380F1024G-E- QFP100R	Yes	Yes
U9	1	Single Channel 10A High Speed Low-side Fet Driver	NCP81074A		SOIC-8	ON Semiconductor	NCP81074ADR2G	No	Yes
U10	1	USB to BASIC UART IC	FT230X		QFN16 4x4	FTDI	FT230XQ-R	Yes	Yes
U11	1	3.3V Voltage Regulator, LDO, Ultra Low Noise, Ultra Low Iq, 500 mA	NCP705		WDFN6	ON Semiconductor	NCP705MT33TCG	No	Yes
U12 U13	2	Low Quiescent Current, Programmable Delay Time, Supervisory Circuit	NCP308MTADJTBG		WDFN6 2x2mm	ON Semiconductor	NCP308MTADJTBG	No	Yes
Y1	1	Crystals 32.768 kHz 12.5 pF +/-20 PPM -40/+85C	32.768 kHz		2 pin w/ shell	Micro Crystal	MS3V-T1R-32.768kHz-12.5pF- 20PPM-TA-QC-Au	Yes	Yes
Y2	1	CRYSTAL 48.0000MHZ 8PF SMD	48MHz		5x3.2mm	NDK	NX5032GA-48.00000MHZ-LN- CD-1	Yes	Yes