



Bill of Materials for the STR-PWRNCV81599-R0-GEVK Evaluation Board

Designator	Quantity	Description	Value	Tolerance	Footprint	Manufacturer	Manufacturer Part Number	Substitution Allowed	Lead Free
Vin Vout	2	10A; 4mm; TH; Red; 571-0500-01 ; DELTRON	Red			DELTRON	571-0500-01		
Utmp	1	Industry Standard Digital Temperature Sensor with □ 2 wire Interface; SO-8; ON Semiconductor			SO-8	ON Semiconductor	NCT375DR2G		
Us	1	NCV8664C; 5V/150mA 2.0% Very Low Iq Low Dropout Linear Regulator; DPAK-3; ON Semiconductor			DPAK-3	ON Semiconductor	NCV8664CDT50RKG		
Ulin Ulout	2	Current-Shunt Monitors Voltage Output Bidirectional Zero-Drift Low- or High-Side Current Sensing; SO-8; ON Semiconductor			SC-88/SC70- 6/SOT-363	ON Semiconductor	NCS213RSQT2G		
Uee	1	EEPROM Serial 512-Kb I2C; SO-8; ON Semiconductor			SO-8	ON Semiconductor	CAT24C512WI-GT3		
U3	1	PCB Footprint for 2 x 2 inch PCB Module							
U2	1	PCB Footprint for 1 x 1 inch PCB Module							
U1	1	PCB Footprint for 0.5 x 0.5 inch PCB Module							
RtrG	1	General Purpose Chip Resistors 220 Ohm +/- 1% -55 to 155 degC 0603 (1608 Metric) RoHS Tape and Reel			603	Yageo	RC0603FR-07220RL		
Rpus	1	RES SMD 0 OHM JUMPER 0603; Yageo	0R		2512	Yageo	RC2512JK-070RL		
Rpds	1	51; 1/10W; 1%; 0603; Yageo	51		603	Yageo	RC0603FR-0751RL		
Rpd1t1 Rpd1t2	2	Chip Resistor 50 Ohm +/- 1% 0.1 W -55 to 155 degC 0603 (1608 Metric) RoHS Tape and Reel	50		603	Vishay Dale	CRCW060350R0FKEA		
Rpd0 Rpd1 Rpd2 Rpd3 RpdEN RpdPG Rsl Rsd Rtmp	9	10k; 1/10W; 1%; 0603; Yageo	10k		603	Yageo	RC0603FR-0710KL		
Rload1 Rload2 Rload3	3	3R3 1W 5% 2512 (6432 Metric) SMD	3.30 Ohm		2512	Vishay Dale	CRCW25123R30JNEG		
Riu Rou	2	18 kOhms ± 0.1% 0.1W 1 / 10W chip resistance 0603 (1608 metric) thin film	18k		603	Yageo	RT0603BRD0718KL		
Rin Rout	2	RES SMD 0.007 OHM 2W 2512; Yageo	0.007R		2512	Yageo	PE2512FKE7W0R007L		
Rim Rip Ron Rop	4	4.7; 1/10W; 1%; 0603; Yageo	4R7		603	Yageo	RC0603FR-074R7L		
Ril Rol	2	RES SMD 2K OHM 0.1% 1 / 10W 0603	2k		603	Yageo	RT0603BRD072KL		
Rgsp	1	RES SMD 10K OHM 1% 1/4W 1206			1206	Samsung Electro-Mechanics	RC3216F103CS		
ReuG	1	Chip Resistor 1.2 KOhm +/- 5% 0.1 W -55 to 155 degC 0603 (1608 Metric) RoHS Tape and Reel			603	Yageo	RC0603JR-071K2L		
Ren2	1	Chip Resistor 10 KOhm +/- 1% 01 W -55 to 155 degC 0603 (1608 Metric) RoHS Tape and Reel			603	Yageo	RC0603FR-0710KL		
Ren1	1	Chip Resistor 4.7 KOhm +/- 1% 0.1 W -55 to 155 degC 0603 (1608 Metric) RoHS Tape and Reel			603	Yageo	RC0603FR-074K7L		
RdG	1	Chip Resistor 100 KOhm +/- 1% 0.1 W -55 to 155 degC 0603 (1608 Metric) RoHS Tape and Reel			603	Yageo	RC0603FR-07100KL		
QL	1	Single N-Channel Logic Level Power MOSFET 30 V 230 A 1.15 mΩ			DFN-5-488AA	On Semiconductor	NTMFS4C302NT1G		
Qenpmos Qrp	2	P-Channel Power MOSFET -40 V -70 A 10.4 mOhm Single 3- Pin ATPAK Pb-Free Tape and Reel			DPAK (Single Gauge) / ATPAK	On Semiconductor	ATP108-TL-H		
Qen	1	Amplifier Transistor NPN Silicon 3-Pin TO-92 Bulk Box				On Semiconductor	BC546BTF		
LOAD TRANSIENT SYNC	2	SMB JACK STR; 50 OHM; TH; 1-1337482-0			SMB	TE Connectivity	1-1337482-0		
JStrata	1	THT Angled Socket Header WR-PHD Pitch 2.54 mm Dual Row 16 pins				WUERTH ELECTRONIC	Wuerth_613016243121		
Jin Jout	2	Large Screw Terminal TERM BLK 2P SIDE ENT 5.08MM PCB				On Shore Technology Inc.	OSTTC022162		
J8 J9 J10 J11 J12 J13 J14 J15 J16 J17	10	TestPoint; 1.6mm; TH; Keystone 5010	5010			Keystone Electronics	5010		
J4 J5 J6 J7	4	TestPoint; 2.37mm; TH; CAMBION 160-1026-02-01-00 TERMINAL				CAMBION	160-1026-02-01-00 [NoValue]		
GND_in GND_out	2	10A; 4mm; TH; Black; 571-0100-01 ; DELTRON	Black			DELTRON	571-0100-01		
EN EN/IO2 IO0 IO1 IO2 IO3 PG PG/IO3 Vaux	9	Board-To-Board Connector; Header; 36; 22-28-4360	3 POS			Würth electronics	Wuerth_61300311121		
Dz	1	36V 3 W Zener Voltage Regulator 2-Pin SMB Pb-Free Tape and Reel			SMB-2-403A- 03_H	On Semiconductor	SZ1SMB5938BT3G		
DpzL	1	Zener Voltage Regulator 225 mW 3-Pin SOT-23 Pb-Free Tape and Reel			SOT-23-3-318-08				
Dpz	1	Zener Voltage Regulator 500 mW 2-Pin SOD-123 Pb-Free Tape and Reel			SOD-123-2-425- 04	On Semiconductor			
Dii Div Doi Dov	4	MMSZ52xxxT1G; 3.0V/0.5W; SOD-123; ON Semiconductor			SOD-123	ON Semiconductor	MMSZ5225BT1G		
Csi Cso	2	0.1uF; 50V; X7R; 10%; 0603; GRM188R70J474KA01D; Murata	0.1u		603	Murata	GCJ188R71H104KA12D		
Cout2	1	4.7uF; 10V; X7R; 10%; 0805; GCM21BR71C475KA73L; Murata	4.7u		805	Murata	GCM21BR71C475KA73L		

Cout1	1	22uF; 10V; X7R; 10%; 1206; GCM31CR71A226KE02L; Murata	22u		1206	Murata	GCM31CR71A226KE02L		
Cout	1	100uF; 63 V; 20%; EEUFR1J101B; Panasonic	100u		Rad_5	Panasonic	EEU-FR1J101B		
CL	1	Current Loop Wire for Oscilloscope Current Probe	0.005		2.5 sqmm Cu Wire	N/A			
Cin2 Csmem Cstmp	3	1uF; 50V; X7R; 10%; 0805; GCM21BR71H105KA03L; Murata	1u		805	Murata	GCM21BR71H105KA03L		
Cin1	1	10uF; 25V; X7R; 10%; 1206; GRT31CR71E106KE13; Murata	10u		1206	Murata	GRM32EE70G107ME19L		
Cin	1	100uF; 63 V; 20%; EEUFR1J101B; Panasonic	100u		Rad_5	Panasonic	EEUFR1J101B		
Cfl	1	0.1uF; 50V; X7R; 10%; 0603; GRM188R70J474KA01D; Murata	0.1u		603	Murata	GCJ188R71H104KA12D		
C1 C2	2	CAP CERM 0.01 µF 50 V+/- 10% X7R 0603 AEC-Q200			603	Murata	GCJ188R71H103KA01		
C3 C8	2	CAP Hybrid Polymer 150 µF 35 V +/- 20% 0.027 ohm SMD			Nichicon_800x1000	Nichicon	GYA1V151MCQ1GS		
C4 C5	2	CAP CERM 4.7 µF 50 V+/- 10% X7S 1210 AEC-Q200			1210_270	Murata	GCJ32ER71H475KA12		
C6 C7	2	CAP CERM 22 µF 25 V+/- 10% X7S 1210 AEC-Q200			1210_270	Murata	GCJ32EC71E226KE02		
C9 C10 C11 C12 C13 C14 C15 C16 C18	9	CAP CERM 0.1 µF 50 V+/- 10% X7R 0603 AEC-Q200			603	Murata	GCJ188R71H104KA12		
C17 C19	2	CAP CERM 1000 pF 50 V+/- 10% X7R 0603 AEC-Q200			603	Murata	GCJ188R71H102KA01		
C20 C21 C22	3	CAP CERM 4.7 µF 16 V+/- 10% X7R 0805 AEC-Q200			0805_HV	Murata	GCJ21BR71C475KA01		
C23	1	CAP CERM 330 pF 10 V+/- 5% C0G 0603 AEC-Q200			603	Murata	GCM1885C2A331JA16		
C24	1	CAP CERM 0.033 µF 50 V+/- 10% X7R 0603 AEC-Q200			603	Murata	GCJ188R71H333KA12		
D1 D2 D3 D4	4	Diode Schottky 40 V 1 A SOD-323HE			PowerDI323	ON Semiconductor	NRVBS14HE		
L1	1	Inductor Shielded Composite 3.3 µH 15.1 A 0.01 ohm SMD			XAL7070	Coilcraft	XAL7070-332MEC		
Q1 Q2 Q3 Q4	4	MOSFET N-CH 40 V 74 A AEC-Q101 8-PowerWDFN			Power_WDFN-8	ON Semiconductor	NVTF55C460NLWFTAG		
R1 R2 R3 R4	4	RES 10 5% 0.1 W 0603			603	Vishay Dale	CRCW060310R0JNEA		
R5 R6	2	RES 0.003 1% 1 W 0805 Wide AEC-Q200			0805_WIDE_065	Susumu	KRL2012E-M-R003-F-T5		
R7 R12 R13	3	RES 10 5% 0.125 W 0805			0805_HV	Vishay Dale	CRCW080510R0JNEA		
R9 R10 R11 R14 R15 R18 R19 R	9	RES 0 5% 0.1 W 0603			603	Vishay Dale	CRCW06030000Z0EA		
R16 R17 R24 R27	4	RES 10 k 5% 0.1 W 0603			603	Vishay Dale	CRCW060310K0JNEA		
R20 R28	2	RES 6.65 k 1% 0.1 W 0603			603	Vishay Dale	CRCW06036K65FKEA		
R21	1	RES 100 k 1% 0.1 W 0603			603	Vishay Dale	CRCW0603100KFKEA		
R22	1	RES 10.0 1% 0.1 W 0603			603	Vishay Dale	CRCW060310R0FKEA		
R23	1	RES 5.90 k 1% 0.1 W 0603			603	Vishay Dale	CRCW06035K90FKEA		
R25 R26	2	RES 2.2 5% 0.1 W 0603			603	Vishay Dale	CRCW06032R20JNEA		
R30	1	RES 10.0 k 1% 0.1 W 0603			603	Vishay Dale	CRCW060310K0FKEA		
U1	1	Digital Temperature Sensor with 2 wire Interface			WDFN8_2x2_511AT	ON Semiconductor	NCT375MNR2G		
U2	1	Automotive Grade USB Power Delivery 4-Switch Buck Boost Controller			RTV0032E	ON Semiconductor	NCV81599MWTXG		