

GPSDO BOM

Basic Parts

Designator	Qty.	Value/Description	Package	Manufacture	Manufacturer P/N	Supplier	Supplier P/N	Unit Price (USD)	Sub Total (USD)
-	1	GPS Active Antenna, SMA connector	-			eBay/Aliexpress		3	3
-	1	0.96 OLED Display 128x64, SSD1306, I2C	-			eBay/Aliexpress		5	5
BT1	1	Battery MS621F	-	SII	MS621FE-FL11E	Mouser	628-MS621FE-FL11E	1.91	1.91
C1	1	CAP CER 100pF 50V COG	0603(1608)	Murata	GRM1885C1H101JA01J		81-GRM39C101J50J	0.1	0.1
C2, C3, C5, C8, C9,C13, C16, C17, C18, C20, C21, C26	12	CAP CER 100nF 50V X7R	0603(1608)	Samsung	CL10B104KB8NNNL	Mouser	187-CL10B104KB8NNNL	0.009	0.108
C11	1	CAP CER 10uF 35V X5R 20%	0603(1608)	Murata	GRM188R6YA106MA73J	Mouser	81-GRM188R6YA106MA3J	0.23	0.23
C4, C6	2	CAP TANT 10uF 16V 10%	3216	AVX	TAJA106K016RNJ	Mouser	581-TAJA106K016R	0.31	0.62
C7, C10	2	CAP TANT 22uF 16V 20%	3528	AVX	F931C226MBA	Mouser	647-F931C226MBA	0.5	1
C14	1	CAP CER 4.7uF 16V 10%	0603(1608)	Samsung	CL10A475KO8NNNC	Mouser	187-CL10A475KO8NNNC	0.12	0.12
C19, C22, C23, C24, C25,	5	CAP CER 1uF 25V X5R	0603(1608)	Samsung	CL10A105KA8NNNC	Mouser	187-CL10A105KA8NNNC	0.1	0.5
D1	1	Diode PMEG6010CEJ	SOD-323	Nexperia	PMEG6010CEJ,115	Mouser	771-PMEG6010CEJF	0.34	0.34
FB1, FB2, FB5, FB6	4	FB 100MHz 1A.25%	0603(1608)	TDK	MPZ1608S601ATA00	Mouser	810-MPZ1608S601ATA00	0.1	0.4
J1, J6	2	SMA Connector (GPS ANT, 10MHz OUT)	SMA(V/H)			eBay/Aliexpress		1	2
J3	1	DC POWER JACK	-	Würth	694106301002	Mouser	710-694106301002	1.02	1.02
L1	1	IND 56nH 2%	0603(1608)	Murata	LQW18AS56NG0ZD	Mouser	81-LQW18AS56NG0ZD	0.23	0.23
R1	1	RES 10 ohm	0603(1608)					0.1	0.1
R2, R3	2	RES 1k ohm	0603(1608)					0.1	0.2
R4, R6	2	RES 22k ohm	0603(1608)					0.1	0.2
R9, R24	2	RES 10k ohm	0603(1608)					0.1	0.2
R5	1	RES 0 ohm	0603(1608)					0.1	0.1
R12	1	RES 33 ohm	0603(1608)					0.1	0.1
SW3	1	Tactile SW Angled	-	ALPS	SKHHLUA010	Mouser	688-SKHHLU	0.61	0.61
U1	1	LDO AMS1117 5V 1A	SOT-223	Diodes	AZ1117CH-5.0	Mouser	621-AZ1117CH-5.0TRG1	0.34	0.34
U3	1	LDO AMS1117 3.3V 1A	SOT-223	Diodes	AZ1117CH-3.3	Mouser	621-AZ1117CH-3.3TRG1	0.38	0.38
U2	1	GNSS Module NEO 7M	-	ublox	NEO-7M-0-000	eBay/Aliexpress	-	9	9
U4	1	74LVC2G04	SOT-23-6	TI	SN74LVC2G04DBVR	Mouser	595-SN74LVC2G04DBVRE	0.39	0.39
U7	1	STM32F410CBTx	LQFP-48	STMicro	STM32F410CBT6	Mouser	511-STM32F410CBT6	5.29	5.29
U8	1	LM73CIMKX-1	SOT-23-6	TI	LM73CIMKX-1/NOPB	Mouser	926-LM73CIMKX-1/NOPB	3.04	3.04
X1	1	OCXO 10MHz	-	CTI	OSC5A2B02(used)	eBay/Aliexpress	-	5	5
TOTAL									41.528

Option Parts (in case of using ST-LINK for STM32 programming)

Designator	Qty.	Value/Description	Package	Manufacture	Manufacturer P/N	Supplier	Supplier P/N	Unit Price (USD)	Sub Total (USD)
J10	1	Pin header 1.27mm 5 x 2 pin	-	Würth	62201021121	Mouser	710-62201021121	1.49	1.49
R15	1	RES 100 ohm	0603(1608)					0.1	0.1
TOTAL (include Basic parts)									43.118

Option Parts (in case of using UART for STM32 programming)

Designator	Qty.	Value/Description	Package	Manufacture	Manufacturer P/N	Supplier	Supplier P/N	Unit Price (USD)	Sub Total (USD)
C31, C32	2	CAP CER 47pF 50V COG	0603(1608)					0.1	0.2
C33, C34	2	CAP CER 100nF 50V X7R	0603(1608)	Samsung	CL10B104KB8NNNL	Mouser	187-CL10B104KB8NNNL	0.009	0.018
C35	1	CAP CER 10uF 35V X5R	0603(1608)	Murata	GRM188R6YA106MA73J	Mouser	81-GRM188R6YA106MA3J	0.23	0.23
FB7	1	FB 100MHz 1A.25%	0603(1608)	TDK	MPZ1608S601ATA00	Mouser	810-MPZ1608S601ATA00	0.1	0.1

R7	1	RES 1k ohm	0603(1608)					0.1	0.1
R22, R23	2	RES 27 ohm	0603(1608)					0.1	0.2
R20	1	RES 4.7k ohm	0603(1608)					0.1	0.1
R21	1	RES 10k ohm	0603(1608)					0.1	0.1
J20	1	USB Micro-B	-	Hirose	ZX62R-B-5P	Mouser	798-ZX62R-B-5P30	1.02	1.02
SW1, SW2	2	Tactile SW Angled	-	ALPS	SKHHLUA010	Mouser	688-SKHHLU	0.61	1.22
U9	1	FT230XS	SSOP-16	FTDI	FT230XS-R	Mouser	895-FT230XS-R	2.26	2.26
TOTAL (include Basic parts)								47.076	

Option Parts (Additional 10MHz Outputs)

Designator	Qty.	Value/Description	Package	Manufacture	Manufacturer P/N	Supplier	Supplier P/N	Unit Price (USD)	Sub Total (USD)
(Sine Wave Output)									
C12, C27	2	CAP CER 100nF 50V X7R	0603(1608)	Samsung	CL10B104KB8NNNL	Mouser	187-CL10B104KB8NNNL	0.009	0.018
C28, C30	2	CAP CER 330pF 50V C0G	0603(1608)					0.1	0.2
C29	1	CAP CER 680pF 50V C0G	0603(1608)					0.1	0.1
FB3	1	FB 100MHz 1A.25%	0603(1608)	TDK	MPZ1608S601ATA00	Mouser	810-MPZ1608S601ATA00	0.1	0.1
J8	1	SMA Connector (10MHz OUT)	SMA(V/H)			eBay/Aliexpress		1	1
L2, L3	2	IND 820nH 5%	0805(2012)	Murata	LQW21HNR82J00L	Mouser	81-LQW21HNR82J00L	0.37	0.74
R18	1	RES 0 ohm	0603(1608)					0.1	0.1
R13	1	RES 470 ohm	0603(1608)					0.1	0.1
R19	1	RES 49.9 ohm	0603(1608)					0.1	0.1
U5	1	74LVC2G04	SOT-23-6	TI	SN74LVC2G04DBVR	Mouser	595-SN74LVC2G04DBVRE	0.39	0.39
(One more squar wave Output)									
J4	1	SMA Connector (10MHz OUT)	SMA(V/H)			eBay/Aliexpress		1	1
J5, J9	2	uFL Connector (10MHz interconnect)	UFL			eBay/Aliexpress		0.5	1
R14	1	RES 33 ohm	0603(1608)					0.1	0.1
-	1	uFL Coaxial cable L=50mm				eBay/Aliexpress		1	1
TOTAL								5.948	

Not assemble parts

C15,FB4, R8, R10, R11, U6		errata							
J2		uFL Connector (exclusive with J1)							
J7		uFL Connector (exclusive with J6)							
R16, R17		I2C pull-up							