

Name	Description	Designator	Quantity	Manufacturer Part Number 1	Supplier Part Number 1	Manufacturer 2	Manufacturer Part Number 2	Supplier Part Number 2
OBD2 connector	1-A, low-IO, high-accuracy, low-dropout voltage regulator with enable 6-WSON -40 to 125	Conn1	1	OBD_12V	OBD_12V pin-reversed			
LDO SON-PKG	AVAGO TECHNOLOGIES - HSMS-C190 - LED, RED, 10MCD, 626NM	IC4	1	TLV75740PDRVR	595-TLV75740PDRVR			
red	AVX - 04025A100JAT2A - SMD Multilayer Ceramic Capacitor, 10 pF, 50 V, 0402 [11005 Metric], ± 5%, COG / NPO, AVX 0402 MLCC	LED2	1	HSMS-C190	630-HSMS-C190			
10p	CAP CER 0.1UF 16V X7R 0402	C28, C30	2	04025A100JAT2A/10K	581-04025A100J			
100n	CAP CER 0.1UF 50V X5R 0402	C1, C25, C36	3	GRM155R71C104KA88D	81-GRM155R71C104KA88			
100n	CAP CER 0.1UF 50V X5R 0402	C5, C20, C26, C37	4	CL1005XSR1H104K050B8	810-CL1005XSR1H104K			
51p	CAP CER 51PF 50V C0G/NP0 0402	C6	1	GRM1555C1H510A01D	81-GRM1555C1H510A1D			
560p	CAP CER 560PF 50V X7R 0402	C33, C34	2	CC0402KRX7R9BBS61	603-CC0402KRX7R9BBS61			
4.7u	Cap Ceramic 4.7uF 25V X5R 20% SMD 0603 85°C Paper T/R	C2, C3, C4	3	TMK107BB475MA-T	963-TMK107BB475MA-T			
8p	Cap Ceramic 8pF 50V COG 1% SMD 0402 125°C Paper T/R	C18, C19	2	GCM1555C1H8R0FA16D	81-GCM1555C1H8R0FA6D			
12MHz	Crystal 12MHz ±10ppm (Tol) ±15ppm (Stability) 10pF FLNED 1300Ohm 4-Pin Mini-CSMD T/R	XTAL2	1	ECS-120-10-36B-CWY-T	520-120-10-36B-CWYT			
16MHz	Crystal 16MHz ±100ppm (Tol) ±100ppm (Stability) 8pF 1000Ohm Automotive 2-Pin SMD T/R	XTAL1	1	XRCHA16M000F0A12R0	81-XRCHA16M000F0A120			
schottky 0.35V @10mA	Diode Schottky 30V 0.2A 3-Pin SOT-23 T/R	D1	1	BAT54CLT1G	863-BAT54CLT1G			
Schottky	Diode Schottky 100V 0.15A 2Pin SOD123	D2	1	BAT46W-7-F	621-BAT46W-7-F			
Pmos enhancement	DMPH6250SQ Series 60 V 2.4 A P-Channel Enhancement Mode Mosfet - SOT-23-3	M1	1	PMV240SPR	771-PMV240SPR	Diodes	DMPH6250SQ-7	
Header 2	Header, 2-Pin	P3	1	not mounted				
Header 3	Header, 3-Pin	P1, P5	2	solo uno da montare				
Header 5	Header, 5-Pin	P2, P4	2	77311-101-09LF	649-77311-101-09LF			
CAN driver	IC CAN TRANSCEIVER HS 8SOIC	IC7	1	TCAN1051VDQ1	595-TCAN1051VDQ1	NXP Semiconductors	TJF1051T/3,118	
battery manager	IC CONTROLLER LI-ION 4.2V 8DFN	IC3	1	MCP73831T-2AC1/MC	MCP73831T-2AC1/MC			
ARM	IC MCU 32BIT 64KB FLASH 48LQFP	IC6	1	LPC1117JBD48E	771-LPC1117JBD48E			
LDO 3.3V	IC REG LIN 3.3V 150MA SOT23-3	IC2	1	AP7313-33R0G-7	623-AP7313-33R0G-7			
5V	IC REG LINEAR 5V 100MA SOT23-3	IC8	1	TLV76050DB2T	595-TLV76050DB2T			
4.7u	Inductor Power Shielded Wirewound 4.7uH 20% 100KHz 2.2A 90mOhm DCR 1515 T/R	L1	1	IFSC1515AHER4R7M01	70-IFSC1515AHER4R7M0			
Yellow	LED, YELLOW, 8MCD, 586nm; LED Colour:Yellow; Bulb Size:-; Wavelength Typ:586nm; Forward Voltage:2.1V; Forward Current If:20mA; Luminous Intensity:8mcd; LED Mounting:SMD; Lens Shape:Rectangular; Viewing Angle:170°; Packaging:Cut Tape; RoHS Compliant: Yes	LED3	1	HSMY-C190	630-HSMY-C190			
Lin transceiver (K line)	LIN Transceiver with Integrated Vreg 5V 20kOh Automotive 8-Pin SOIC N	U1	1	MCP2021-500E/SN	579-MCP2021-500E/SN			
atmega 1284p-mu	MCU 8-bit ATmega AVR RISC 128KB Flash 2.5V/3.3V/5V 44-Pin VQFN IP	IC5	1	ATMEGA1284P-MU	556-ATMEGA1284P-MU			
2.2u	Multilayer Ceramic Capacitor 2.2uF 25V 10% 0402 Paper T/R	C12	1	TMK105C822XKV-F	963-TMK105C822XKV-F			
10u	Multilayer Ceramic Capacitor 10uF XSR 20% 0402 Paper T/R	C29	1	Z8B15XR61A106MED1D	81-Z8B15XR61A106MED1D	Murata	GRM155R60J106ME05	
4.7n	Multilayer Ceramic Capacitors MLCC - SMD/SMT	C10	1	GRM155R71H472JA0J1	81-GRM155R71H472JA1J			
47u	Multilayer Ceramic Capacitors MLCC - SMD/SMT 1206 47uF 10Vdc XSR +/-10%	C7	1	GRM31CR61A476KE15L	81-GRM31CR61A476KE5L			
4.7u	MURATA - GRM155R60J475ME87D - SMD Multilayer Ceramic Capacitor, 4.7 uF, 6.3 V, 0402 [11005 Metric], ± 20%, XSR, GRM Series	C9	1	GRM155R60J475ME87D	81-GRM155R60J475ME8D			
Pmos	On a Reel of 3000, P-Channel MOSFET, 130 mA, 50 V, 3-Pin SOT-23 ON Semiconductor BSS84LT1G	Q5	1	BVSS84LT1G	863-BVSS84LT1G	ON Semiconductor	BSS84LT1G	
BJT	ON SEMICONDUCTOR BC850CLT1G BIPOLAR TRANSISTOR, NPN, 45V SOT-23	Q1, Q3, Q4	3	BC850CLT1G	863-BC850CLT1G			
zener 10V	ON SEMICONDUCTOR - BZX84C10LT1G - Zener Single Diode, 10 V, 225 mW, SOT-23, 6 %, 3 Pins, 150 °C	Z1	1	BZX84C10LT1G	863-BZX84C10LT1G			
zener 3.9V	ON SEMICONDUCTOR - MM3Z3V95T1G - Zener Single Diode, 3.9 V, 300 mW, SOD-323, 5 %, 2 Pins, 150 °C	Z2	1	MM3Z3V95T1G	863-MM3Z3V95T1G			
3.3k	PANASONIC - ERJ2RKF3301X - RES, 3K3, 1%, 0.1W, 0402, THICK FILM P-Channel 12 V 31 mOhm Surface Mount Enhancement Mode Mosfet - SOT-23-3	R26, R27	2	RC0402FR-073K3L	603-RC0402FR-073K3L	Panasonic	ERJ-2RKF3301X	667-ERJ-2RKF3301X
Pmos	RES SMD 1.3M OHM 1% 1/16W 0402	M2, M3	2	DMP1045U-7	621-DMP1045U-7			
1.3M	RES SMD 1.3M OHM 1% 1/16W 0402	R5	1	AC0402FR-071M3L	603-AC0402FR-071M3L	Vishay	CRCW04021M30FKED	71-CRCW0402-1.3M-E3
18.7k	RES SMD 18.7K OHM 1% 1/16W 0402	R4	1	CR0402-FX-1872GLF	652-CR0402-FX1872GLF			
100	RES SMD 100 OHM 0.5% 1/16W 0402	R33, R34	2	ERJ-2RHD1000X	667-ERJ-2RHD1000X			
150	RES SMD 150 OHM 1% 1/10W 0402	R12	1	ERJ-2RKF1500X	667-ERJ-2RKF1500X			
2.4k	Res Thick Film 0402 2.4K Ohm 1% 0.063W(1/16W) ±100ppm/C Epoxy Pad SMD T/R	R19	1	RC0402FR-072K4L	603-RC0402FR-072K4L	Panasonic	ERJ-2RKF2401X	667-ERJ-2RKF2401X
4.7k	Res Thick Film 0402 4.7K Ohm 1% 1/10W ±100ppm/A°C Molded SMD SMD Punched Carrier T/R	R13, R17, R18, R21	4	MCS04020C4701FE000	594-MCS04020C4701FE0	Panasonic	ERJ-2RKF4701X	
10k	Res Thick Film 0402 10K Ohm 1% 1/16W ±100ppm/C Molded SMD Paper T/R	R7, R15, R37, R43	4	CRCW0402-10K0FKED	71-CRCW0402-10K-E3			
39k	Res Thick Film 0402 39K Ohm 0.5% 0.063W(1/16W) ±50ppm/C Molded SMD Automotive Punched T/R	R11	1	ERJ2RHD3902X	667-ERJ-2RHD3902X			
88.7k	Res Thick Film 0402 88.7K Ohm 1% 0.063W(1/16W) ±100ppm/C Molded SMD Paper Tape on Plastic Reel	R2	1	CR0402-FX-8872GLF	652-CR0402-FX8872GLF			
100k	Res Thick Film 0402 100K Ohm 1% 1/16W 100ppm/C Molded SMD Paper T/R	R9	1	CRCW0402100KFKTD	71-CRCW0402-100K	Vishay	CRCW0402100KFKED	
120k	Res Thick Film 0402 120K Ohm 0.5% 0.063W(1/16W) ±100ppm/C Molded SMD Automotive Punched T/R	R10	1	ERJ2RKD1203X	667-ERJ-2RKD1203X			
330	Res Thick Film 0402 330 Ohm 1% 0.063W(1/16W) ±100ppm/C Pad SMD T/R	R40, R41	2	RC0402FR-07330RL	603-RC0402FR-07330RL			
510	Res Thick Film 0402 510 Ohm 1% 0.063W(1/16W) ±100ppm/C Pad SMD T/R	R32	1	CRCW0402510RKFEDC	71-CRCW0402510RKFEDC			
0	Res Thick Film 0805 0 Ohm Epoxy Pad SMD T/R	R38, R39	2	RC0805FR-070RL	603-RC0805FR-070RL			
10k	RES, THICK FILM, 10K, 1%, 0.1W, 0402, REEL; Product Range:AEC-Q200 ERJ Series; Resistance:10kohm; Power Rating:100mW; Resistance Tolerance: 1%; Voltage Rating:50V; Resistor Case Style:0402 [1005 Metric]; Packaging:Tape & Reel; MSL:-;RoHS Compliant: Yes	R28, R29, R30, R31, R36	5	ERJ-U02F1002X	667-ERJ-U02F1002X			
18k	RESISTOR, 0402, 18K, 1%, FULL REEL; Product Range:VISHAY - AEC-Q200 CRCW Series; Resistance:18kohm; Power Rating:63mW; Resistance Tolerance: ± 1%; Resistor Case Style:0402 [1005 Metric]; Resistor Element Material:Thick Film - RgHS Compliant: Yes	R8	1	CRCW040218K0FKED	71-CRCW0402-18K-E3			
22.1k	Resistor; Thick Film; 22.1 Kiloohms; 0.063 W; 1%; SMT; 0402; TCR 37 ppm/DecC; TR	R6	1	CRCW040222K1PKED	71-CRCW0402-22.1K-E3			
47k	Resistor; Thick Film; 47 Kiloohms; 0.063 W; 1%; SMT; 0402; TCR 37 ppm/DecC	R14, R16, R20, R22, R35	5	CRCW040247K0FKED	71-CRCW0402-47K-E3			
2.2u	SAMSUNG ELECTRO-MECHANICS - CL10A225KP8NNNC - SMD Multilayer Ceramic Capacitor, 2.2 uF, 10 V, 0603 [1608 Metric], ± 10%, XSR, CL	C8	1	CL10A225KP8NNNC	187-CL10A225KP8NNNC			
02SSL20L	SCHOTTKY DIODE https://eu.mouser.com/datasheet/2/345/02ssl20l-02ssl40l-1107799.pdf	D3	1	RB161MM-20TR	755-RB161MM-20TR			
DC/DC	SIMPLE SWITCHER®B, 36-V, 1.5-A Synchronous Step-Down Converter 12-SOIC -40 to 125	IC1	1	LMR23615SDRR	595-LMR23615SDRR			
1u	TAIYO YUDEN - EMK105BJ105KVHF - CAPACITOR,CERAMIC,0402,16V,XSR,1 F, 10% ROHS COMPLIANT: YES	C11, C13, C14, C15, C16, C17, C22, C23, C24, C25, C27, C31, C32, C38	14	EMK105BJ105KVHF	963-EMK105BJ105KVHF			
10u	TDK C1608XSR1A106K080AC. CERAMIC CAPACITOR, 10UF, 10V, XSR, 10%, 0603, FULL REEL	C21	1	C1608XSR1A106K080AC	810-C1608XSR1A106K			
5.6k	TE Connectivity CRG0402 Series Thick Film Surface Mount Resistor 0402 Case 5.6k 1% 0.063W 100ppm/C	R23	1	ERJ-2RKF5601X	667-ERJ-2RKF5601X	TE Connectivity	CRG0402F5K6	
Comparator	TEXAS INSTRUMENTS - LM393D - COMPARATOR DUAL, SMD, SOIC8, 393	IC10	1	LM393D	595-LM393D			
2.2k	Thick Film Resistor - SMD 2.2K OHM 1%	R24, R25	2	RC0402FR-132K2L	603-RC0402FR-132K2L			
Nmos	Trans MOSFET N-CH 50V 0.22A 3-Pin SOT-23 T/R	O2, O6	2	BSS138	512-BSS138	ON Semiconductor	BVSS123LT1G	863-BVSS123LT1G
6.8M	VISHAY CRCW04026M80FKED SMD Chip Resistor, Thick Film, AEC-Q200 CRCW Series, 6.8 Mohm, 50 V, 0402 [11005 Metric], 63	R3	1	CRCW04026M80FKED	71-CRCW04026M80FKED			
S-1011EA0-M6T1U4	Voltage detector	IC2	1	S-1011EA0-M6T1U4	628-S-1011EA0-M6T1U4	ABLIC	S-1011EA0-M6T1U4	
red	WURTH ELEKTRONIK - 150060RS75000 - LED, Red, 625 nm, 2 V, 30 mA, 250 mcd, RoHS Compliant: Yes	LED1	1	150060RS75000	710-150060RS75000			
0	YAGEO - RC0603JR-130RL - RES, THICK FILM, 0R, 0.1W, 0603	R1, R42	2	RC0603JR-130RL	603-RC0603JR-130RL			