













	Description	Designator	Footprint	LibRef	Quantity
	Industry's Smallest 4A Switch Single-				
BUCK-BOOST	Inductor Buck-Boost	BB1	TPS630250RNCT	TPS630250RNCT	
	Converter 14-VQFN- HR -40 to 125				
TPS613222ADBVT	Power Supply	BC1	SOT95P280X145-5N	TPS613222ADBVT	
	Cap Ceramic 10uF 25V X7S 10% Pad SMD			CGA4J1X7S1E106K125	
10uF 25V	0805 125°C Low ESR	C1, C14	Cap08051uF	AC	
	Automotive T/R	02 02 040 020 024			
1uF	CAP CER 1UF 16V X7R 0805	C2, C3, C19, C20, C21, C23	Cap08051uF	C0805C105J4RAC7025	
D.1uF	Cap Cer 0805 0.1UF	C4, C5, C8, C15, C16,	Cap08051uF	C0805C104J4RECAUT	
D. Tul	16V X7R 5% Cap Ceramic 10uF	C17, C22, C24, C25	Capososiui	0	
10uF 10V	10V X5R 10% SMD	C6, C9, C10	Cap08051uF	CL21A106KPFNNNG	
	0805 85°C Embossed Plastic T/R	06, 09, 010	Capososiur	CL2 IA IOOKPFINING	
	Cap Ceramic 47uF				
47uF	16V X5R 10% SMD	C7	CAPC3225X270N	GRM32ER61C476ME1	
	1210 85°C Embossed Plastic T/R	-		5L	
4.7uF	Capacitor	C11	C2012_Commercial	C2012X7R1A475M125	
4.7ur	Сарастоі	CII	C2012_CONTINEICIAI	AC GRM31CR71A226KE15	
22uF	Capacitor	C12, C13	CAPC3216X180N	GRM31CR71A226KE15 L	
10uF 25V	Capacitor	C18	CAPC2012X145N	CGA4J1X7S1E106K125	
1001 254		0.0	074 02012111014	AC	
VS-30BQ040HM3/9AT	Diode Schottky	D1	DIOMETOROVO COM	1/C 200000 401 II 42 /0 4 T	
	Rectifier 40V 4A 2-Pin DO-214AB Plastic T/R	DI.	DIOM7959X262N	VS-30BQ040HM3/9AT	
ESP32-WROOM-				ESP32-WROOM-	
32E(M113EH2800PH3 Q0)	Integrated Circuit	IC1	ESP32WROOM32EM1 13EH2800PH3Q0	32E(M113EH2800PH3	
	Rf Transceiver			Q0)	
XB24CZ7WIT-004	Module, 2.4GHZ, -	IC2	XB24CAPIT-001	XB24CZ7WIT-004	
	102DBM				
	Conn Unshrouded Header HDR 3 POS				
UART DOWNLOAD	2.54mm Solder ST	J1	HDRV3W90P0X254_1 X3 740X249X560P	90120-0763	
	Thru-Hole C-Grid III™ Frame		NO_740A249A300F		
1.41		1.1	INIDDAMAMANAOAN	IHLP1616ABER1ROM1	
1uH	Inductor	L1	INDPM4441X120N	1	
2.2uH	Inductor LED Uni-Color Red	L2	INDC2012X105N	MLP2012H2R2MT0S1	
RLED	639nm 2-Pin Chip LED	LED1	LED0603	LTST-C191KRKT	
NEED .	T/R / LED RED CLEAR 0603 SMD	LLD1	LLDOODS	LIST OTTIMAL	
LTST-C191KGKT		LED2	LEDC1608X55N	LTST-C191KGKT	
	Res Thick Film 0805				
10K	10K Ohm 1% 0.25W ±100ppm/°C Molded	R1, R3, R4, R5, R11,	R080510k1/2W	ERJ-P06F1002V	
	SMD Punched Carrier	R16			
300	T/R Resistor	R2	R080510k1/2W	ERJ-P06J301V	
	Res Thick Film 0805	NZ.	INCOCOTON 17 244	LIG T GUSSITY	
560k	560K Ohm 0.5% 0.25W(1/4W)	R6	R080510k1/2W	ERJ-PB6D5603V	
	±50ppm/C Pad SMD	КО	KU8U5 IUK 1/2VV	EKI-PB0D5003V	
	Automotive T/R				
	Res Thick Film 0805 180K Ohm 0.5%				
180k	0.25W(1/4W)	R7	R080510k1/2W	ERJ-PB6D1803V	
	±50ppm/C Pad SMD				
	Automotive T/R Res Thick Film 0805				
56.2k	56.2K Ohm 0.5%				
	0.25W(1/4W) ±50ppm/C Pad SMD	R8	R080510k1/2W	ERJ-PB6D5622V	
	Automotive T/R		İ		
	Res Thick Film 0805				
1.43k	Res Thick Film 0805 1.43K Ohm 0.5%	R9. R13	R080510k1/2W	ERJ-PB6D1431V	
1.43k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(1/4W) ±50ppm/C Pad SMD	R9, R13	R080510k1/2W	ERJ-PB6D1431V	
	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R	,		213 1 232 1 1 2 1 2	
	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(1/4W) ±50ppm/C Pad SMD	R9, R13	R080510k1/2W R080510k1/2W	ERJ-PB6D1431V ERJ-PB6B1741V	
	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R RES SMD 1.74K OHM 0.1% 1/4W 0805 Res Thick Film 0805	,		213 1 232 1 1 2 1 2	
1.74k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(1/4W) 50ppm/C Pad SMD Automotive T/R RES SMD 1.74K OHM 0.1% 1/4W 0805 Res Thick Film 0805 3.09K Ohm 0.5%	R10	R080510k1/2W	ERJ-PB6B1741V	
1.74k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R RES SMD 1.74K OHM 0.1% 1/4W 0805 Res Thick Film 0805 3.09K Ohm 0.5% 0.25W(1/4W) ±50ppm/C Pad SMD	,		213 1 232 1 1 2 1 2	
1.43k 1.74k 3.09k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R RES SMD 1.74K OHM 0.1% 1/4W 0805 Res Thick Film 0805 3.09K Ohm 0.5% 0.25W(1/4W)	R10	R080510k1/2W	ERJ-PB6B1741V	
1.74k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R RES SMD 1.74K OHM 0.1% 1/4W 0805 Res Thick Film 0805 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R Res Thick Film 0805	R10	R080510k1/2W	ERJ-PB6B1741V	
1.74k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(174W) ±50ppm/C Pad SMD Automotive T/R RES SMD 1.74K OHM 0.1% 1.74W 0805 Res Thick Film 0805 3.09K Ohm 0.5% 0.25W(174W) ±50ppm/C Pad SMD Automotive T/R Res Thick Film 0805 4.32K Ohm 0.5% 0.25W(174W)	R10	R080510k1/2W	ERJ-PB6B1741V	
1.74k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(1/4W) ±50pm/C Pad SMD 4.50pm/C Pad SMD 0.1% 1/4W 0805 Res Thick Film 0805 3.09K Ohm 0.5% 2.5W(1/4W) ±50pm/C Pad SMD Automotive T/R RES Thick Film 0805 3.09K Ohm 0.5% 0.25W(1/4W) ±50pm/C Pad SMD Automotive T/R 8.50 Thick Film 0805 4.32K Ohm 0.5% 0.25W(1/4W)	R10	R080510k1/2W R080510k1/2W	ERJ-PB6B1741V ERJ-PB6D3091V	
1.74k	Res Thick Film 0005 1.43 Chnn 0.55 0.25W(1/4W) ±30ppm/C Pad SMD Automotive VR RES SMD 1.74K CHM 0.15 1.74K CHM	R10	R080510k1/2W R080510k1/2W	ERJ-PB6B1741V ERJ-PB6D3091V	
1.74k 3.09k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(1/4W) 550ppm/C Pad SMD Automotive T/R 6ES SM0 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.25W(1/4W) 550ppm/C Pad SMD Automotive T/R Res Thick Film 0805 4.32K Ohm 0.5% 0.25W(1/4W) 550ppm/C Pad SMD Automotive T/R Res Thick Film 6805 4.32K Ohm 0.5% 0.55W(1/4W) 550ppm/C Pad SMD Automotive T/R Res Thick Film 6805	R10	R080510k1/2W R080510k1/2W R080510k1/2W	ERJ-P86B1741V ERJ-P86D3091V ERJ-P86D4321V	
1.74k 3.09k	Res Thick Film 005: 1.43 Chen 0.55; 0.25W(1/4W) ±50ppm/C Pad SMD Automotive VR RES SMD 1.74K CHM 0.71s 1/4W CHM	R10	R080510k1/2W R080510k1/2W	ERJ-PB6B1741V ERJ-PB6D3091V	
1.74k 3.09k 4.3k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(7/4W) 4.55Opm/C Pad SMD Automotive T/R 8ES SMD 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.25W(7/4W) 4.55Opm/C Pad SMD Automotive T/R Res Thick Film 0805 3.09K Ohm 0.5% 0.25W(7/4W) 4.55Opm/C Pad SMD Automotive T/R Res Thick Film 0805 0.25W(7/4W) 4.55Opm/C Pad SMD Automotive T/R Res Thick Film 0805 5.1K Ohm 0.5% 0.25W(7/4W) 4.55Opm/C Pad SMD Automotive T/R 8.5 Thick Film 0805 5.1K Ohm 0.5% 0.25W(7/4W) 4.55Opm/C Pad SMD Automotive T/R	R10 R12 R14	R080510k1/2W R080510k1/2W R080510k1/2W ERUP06_(0805)	ERJ-P86B1741V ERJ-P86D3091V ERJ-P86D4321V ERJ-P86D5101V	
1.74k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R ESS SMD 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R Res Thick Film 0805 3.09K Ohm 0.5% 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R Res Thick Film 0806 4.32K Ohm 0.5% 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R Res Thick Film 0805 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R No Thick Film 0805 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R No Thick Film 0805 0.25W(1/4W) ±50ppm/C Pad SMD Automotive T/R No Thick Film 0805 0.25W(1/4W)	R10	R080510k1/2W R080510k1/2W R080510k1/2W ERUP06_(0805)	ERJ-P86B1741V ERJ-P86D3091V ERJ-P86D4321V	
1.74k 3.09k 4.3k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(7/4W) 4.55Opm/C Pad SMD Automotive T/R 8ES SMD 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.25W(7/4W) 4.55Opm/C Pad SMD Automotive T/R Res Thick Film 0805 3.09K Ohm 0.5% 0.25W(7/4W) 4.55Opm/C Pad SMD Automotive T/R Res Thick Film 0805 0.25W(7/4W) 4.55Opm/C Pad SMD Automotive T/R Res Thick Film 0805 5.1K Ohm 0.5% 0.25W(7/4W) 4.55Opm/C Pad SMD Automotive T/R 8.5 Thick Film 0805 5.1K Ohm 0.5% 0.25W(7/4W) 4.55Opm/C Pad SMD Automotive T/R	R10 R12 R14	R080510k1/2W R080510k1/2W R080510k1/2W ERUP06_(0805)	ERJ-P86B1741V ERJ-P86D3091V ERJ-P86D4321V ERJ-P86D5101V	
1.74k 3.09k 4.3k 5.1k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(7/4W) **Soppm/K Pad SMD Automotive T/R SES SMD 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.25W(7/4W) **Soppm/K Pad SMD 4.00C 0.52W(7/4W) **Soppm/K Pad SMD 4.00C 0.52W(7/4W) **Soppm/K Pad SMD Automotive T/R Res Thick Film 0805 0.25W(7/4W) **Soppm/K Pad SMD Automotive T/R Res Thick Film 0805 0.25W(7/4W) **Soppm/K Pad SMD Automotive T/R Res Thick Film 0805 5.1K Ohm 0.5% 0.25W(7/4W) **Soppm/K Pad SMD Automotive T/R Thue-Wire-Terminal Switch Tacillo N. SSPS Round Button O. SPST Round Button O. SPST Round Button O. SPST Round Button Cull Wing 0.05A	R10 R12 R14	R080510k1/2W R080510k1/2W R080510k1/2W ERUP06_(0805)	ERJ-P86D1741V ERJ-P86D3091V ERJ-P86D4321V ERJ-P86D5101V PRT-08084	
1.74k 3.09k 4.3k 5.1k	Res Thick Film 0055 1.38 Chm 0.5% 0.25W(1/4W) 45Cppm/C Pad SMD Automotive T/R ESS SMD 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.25W(1/4W) 45Cppm/C Pad SMD Automotive T/R Res Thick Film 0050 0.25W(1/4W) 4.33K OHm 0.5% 0.25W(1/4W) 4.35K OHM 0.5% 0.25W(1/4W) 5.35K OHM 0.5% 0.25K OHM 0	R12 R14 R15 Solar Cell, Terminal3	R080510k1/2W R080510k1/2W R080510k1/2W ERJP06_(0805) HDR1X2	ERJ-P86D1741V ERJ-P86D3091V ERJ-P86D4321V ERJ-P86D5101V PRT-08084	
1.74k 3.09k 4.3k 5.1k	Res Thick Film 0805 0.25W(1/4W) **Söppm/C Pad SMD Automotive T/R SS SMD 1-74K O+M 0.1% 1/4W 0805 Res Thick Film 0805 3.09K Ohm 0.5% 0.25W(1/4W) **Söppm/C Pad SMD Automotive T/R Res Thick Film 0805 3.09K Ohm 0.5% 0.25W(1/4W) **Söppm/C Pad SMD Automotive T/R Res Thick Film 0805 0.25W(1/4W) **Söppm/C Pad SMD Automotive T/R Res Thick Film 0805 5.1K Ohm 0.5% 0.25W(1/4W) **Söppm/C Pad SMD Automotive T/R Thoe-Wire-Terminal Automotive T/R Thoe-Wire-Terminal Coll Wiring 0.05 **Söppm/C Pad SMD Automotive T/R Thoe-Wire-Terminal Coll Wiring 0.05 **Söppm/C Pad SMD Automotive T/R Thoe-Wire-Terminal Coll Wiring 0.05 **Söppm/C Pad SMD Automotive T/R Thoe-Wire-Terminal Coll Wiring 0.05 **Söppm/C Pad SMD Automotive T/R Thoe-Wire-Terminal Coll Wiring 0.05 **Coll	R12 R14 R15 Solar Cell, Terminal3 SW1, SW2	R080510k1/2W R080510k1/2W R080510k1/2W ERJP06_(0806) HDR1X2 PTS647SK38SMTR2LFS	ERJ-PB6D1741V ERJ-PB6D3091V ERJ-PB6D4321V ERJ-PB6D5101V PRT-08084	
1.74k 3.09k 4.3k 5.1k	Res Thick Film 0805 1.43K Ohm 0.5% 0.25W(7/4W) **Soppm/K Pad SMD Automotive T/R STS SMD 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.25W(7/4W) **Soppm/K Pad SMD Automotive T/R Res Thick Film 0805 3.09K Ohm 0.5% 0.25W(7/4W) **Soppm/K Pad SMD Automotive T/R Res Thick Film 0805 0.25W(7/4W) **Soppm/K Pad SMD Automotive T/R Res Thick Film 0805 0.25W(7/4W) **Soppm/K Pad SMD Automotive T/R Res Thick Film 0805 0.25W(7/4W) **Soppm/K Pad SMD Automotive T/R Thus -Wire-Terminal **Soppm/K Pad SMD Automotive T/R Thus -Wire-Terminal **Oppm/K Pad SMD Automotive T/R Thus -Wire-Terminal	R12 R14 R15 Solar Cell, Terminal3	R080510k1/2W R080510k1/2W R080510k1/2W ERJP06_(0806) HDR1X2 PTS647SK38SMTR2LFS	ERJ-P86D1741V ERJ-P86D3091V ERJ-P86D4321V ERJ-P86D5101V PRT-08084	
1.74k 3.09k 4.3k 5.1k	Res Thick Film 0059 1.43K Ohm 0.5% 0.25W(1/4W) 45Copm/C Pad SMD Automotive T/R ESS SMD 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.25W(1/4W) 4.50pm/C Pad SMD Automotive T/R Res Thick Film 0050 4.33K Ohm 0.5% 0.25W(1/4W) 4.35K Ohm 0.5% 0.25W(1/4W) 4.35K Ohm 0.5% 0.25W(1/4W) 4.35K Ohm 0.5% 0.25W(1/4W) 4.55K Ohm 0.5% 0	R12 R14 R15 Solar Cell, Terminal3 SW1, SW2	R080510k1/2W R080510k1/2W R080510k1/2W ERJP06_(0806) HDR1X2 PTS647SK38SMTR2LFS	ERJ-PB6D1741V ERJ-PB6D3091V ERJ-PB6D4321V ERJ-PB6D5101V PRT-08084	
1.74k 3.09k 4.3k 5.1k	Res Thick Film 0059 1.43K Ohm 0.5% 0.25W(7.4W) 45Copm/C Pad SMD Automotive T/R 55Cpm/C Pad SMD Automotive T/R 65S SMD 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.25W(7.4W) 45Copm/C Pad SMD Automotive T/R Res Thick Film 0050 4.33K Ohm 0.5% 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Res Thick Film 0506 1.35K Ohm 0.5% 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0550 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD 40T Pad	R12 R14 R15 Solar Cell, Terminal3 SW1, SW2 Terminal1, Terminal2	R080510k1/2W R080510k1/2W R080510k1/2W ERJP06_(0805) HDR1X2 HDR1X2 HDR1X3 OFN50P300X300X100	ERJ-PB6D1741V ERJ-PB6D3091V ERJ-PB6D4321V ERJ-PB6D5101V PRT-08084 PRT-08235	
1.74k 3.09k 4.3k	Res Thick Film 0805 0.25W(7/4W) 450ppm/C Pad SMD Automotive T/R 55S MD 174K OHM 0.1% 174K OHM 0.1% 174K OHM 0.1% 174K OHM 0.25W(7/4W) 450ppm/C Pad SMD Automotive T/R Res Thick Film 0805 3.09K Ohm 0.5% 0.25W(7/4W) 450ppm/C Pad SMD Automotive T/R Res Thick Film 0805 0.25W(7/4W) 450ppm/C Pad SMD Automotive T/R Res Thick Film 0805 0.25W(7/4W) 450ppm/C Pad SMD Automotive T/R Res Thick Film 0805 0.25W(7/4W) 450ppm/C Pad SMD Automotive T/R Thus-Wire-Terminal USB-Film 0805 1.1K Ohm 0.5% 0.25W(1/4W) 450ppm/C Pad SMD Automotive T/R Thus-Wire-Terminal USB-Film 0805 1.27UC 100000Cycles 2.48N SMD 17C 2.48N SMD 17C 3.4Wire-Terminal USB-Filendiy Lithium Based battery charger With power- plath for 4.35W	R12 R14 R15 Solar Cell, Terminal3 SW1, SW2	R080510k1/2W R080510k1/2W R080510k1/2W ERLPO6_(0805) HDR1X2 PTS6475K38SMTR2LFS HDR1X3	ERJ-PB6D1741V ERJ-PB6D3091V ERJ-PB6D4321V ERJ-PB6D5101V PRT-08084	
1.74k 3.09k 4.3k 5.1k	Res Thick Film 0059 1.43K Ohm 0.5% 0.25W(7.4W) 45Copm/C Pad SMD Automotive T/R 55Cpm/C Pad SMD Automotive T/R 65S SMD 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.1% 1.74K OHM 0.25W(7.4W) 45Copm/C Pad SMD Automotive T/R Res Thick Film 0050 4.33K Ohm 0.5% 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Res Thick Film 0506 1.35K Ohm 0.5% 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0550 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD Automotive T/R Thick Film 0556 0.25W(1.74W) 45Copm/C Pad SMD 40T Pad	R12 R14 R15 Solar Cell, Terminal3 SW1, SW2 Terminal1, Terminal2	R080510k1/2W R080510k1/2W R080510k1/2W ERJP06_(0805) HDR1X2 HDR1X2 HDR1X3 OFN50P300X300X100	ERJ-PB6D1741V ERJ-PB6D3091V ERJ-PB6D4321V ERJ-PB6D5101V PRT-08084 PRT-08235	