













Description	Designator	Footprint	LibRef	Quantity	Manufacturer 1	Manufacturer Part Number 1	Supplier Part Number 1	Supplier 1
CAP CER 0.1UF 50V X7R 0805	C1, C4, C7, C14, C19, C20, C25, C28, C29, C30, C31, C32, C33, C34, C35, C37, C38,	CAPC2012X140N	CAP_0.1uF_50V_0805	23	Murata Electronics	GCD21BR71H104K A01L	490-11955-1-ND	Digi-Key
CAP CER 1UF 16V X7R	C39, C41, C42, C44, C45, C47 C8, C11, C12, C49, C51	CAPC2012X140N	CAP_1uF_16V_0805		Yageo	CC0805KKX7R7BB	311-1365-1-ND	Digi-Key
0805 Cap Ceramic 14pF 50V C0G 5% SMD 0603	C9, C10	CAPC0603(1608)55_N	CL10C140JB8NNNC	1	Samsung	CL10C140JB8NNN	1276-2187-1-ND	Digi-Key
125C Cardboard T/R CAP CER 4.7UF 16V	C13	CAPC2012X140N	CAP_4.7uF_16V_0805	,	Samsung Electro-	CL21A475KOFNN	1276-1065-1-ND	Digi-Key
X5R 0805 CAP CER 150PF 250V	C15	CAPC2012X140N	CAP_150pF_250V_080		Mechanics Murata	NE GRM21A5C2E151J	490-12755-1-ND	
COG/NP0 0805 CAP CER 10UF 100V	LIS	CAPC2012X140N	5		Electronics	W01D	490-12755-1-ND	Digi-Key
X7S 1210, CAP CER 10uF 100V X7S 10% 1210	C16, C40	CAPC1210(3225)	CAP_10uF_100V_1210	2	Murata Electronics, Murata	GRM32EC72A106K E05L	490-16266-2-ND, 490-16266-1-ND	Digi-Key
CAP CER 2.2UF 50V X7R 1206	C17	CAPC1206(3216)	CAP_2.2uF_50V_1206	1	Murata Electronics	GCM31CR71H225 KA5SL	490-4796-1-ND	Digi-Key
CAP ALUM POLY 220UF 20% 6.3V SMD	C18	PCAP_SVP_B6_PA00	CAP_220uF_6.3V_SM	1	Panasonic Electronic	6SVPE220MW	P16836CT-ND	Digi-Key
CAP CER 100PF 50V	C21, C22, C23, C24,	CAPC2012X140N	CAP_100pF_50V_0805		Components	C0805C101J5GAC	399-1122-1-ND	Digi-Key
COG/NPO 0805 CAP CER 2.2UF 100V	C36	CAPC1210(3225)	CAP_2.2uF_100V_121			TU HMK325B7225KM	587-5396-1-ND	
X7R 1210 CAP CER 10000PF			0 CAP_0.01uF_100V_08	· '	Taiyo Yuden	HP C0805C103K1RAC		Digi-Key
100V X7R 0805 CAP CER 2.2UF 25V	C27, C50	CAPC2012X140N	05	2	KEMET	TU GRM21BR71E225K	399-1159-1-ND	Digi-Key
X7R 0805 LED RGB DIFFUSED	C43, C46, C48	CAPC2012X140N	CAP_2.2uF_25V_0805	3	Electronics	A73L ASMB-MTB1-	490-3331-2-ND	Digi-Key
4PLCC SMD	D1	LED_RGB	LED_RGB	1	Broadcom	ASMB-M1B1- 0A3A2	516-3280-1-ND	Digi-Key
LED GREEN DIFFUSED 0805 SMD	D2, D3, D8	LED_0805_LINE	DIO_LED_G	1	OSRAM	LG R971-KN-1	475-1410-1-ND	Digi-Key
DIODE SCHOTTKY 40V 500MA SOD123	D4, D7	SOD-123_FLAT	DIO_SCHOTTKY_40V_ 500mA	- 1	Diodes Incorporated	B0540W-7-F	B0540W-FDITR- ND	Digi-Key
DIODE ZENER 16V	D5	SOD-123_FLAT	DIO_ZENER_16V	1	Diodes	MMSZ5246B-7-F	MMSZ5246B-	Digi-Key
500MW SOD123 DIODE GEN PURP	D6	SOD-123_FLAT	DIO_100V_300mA		Incorporated Diodes	1N4148W-7-F	FDITR-ND 1N4148W-FDICT-	Digi-Key
100V 300MA SOD123 TVS DIODE, 400W,				<u> </u>	Incorporated Vishay		ND P4SMA30A-	
25.6V, UNI, DO-214AC CONN HEADER XH	D9	DO-214AC_UNI	P4SMA30A-E3/61	1	Semiconductors JST Sales America	P4SMA30A-E3/61	E3/61GICT-ND	Digi-Key
SIDE 7POS 2.5MM	J1	JST_S7B-XH-A(LF)(SN)	CON_7M_TH_RA	1	Inc.	S7B-XH-A/LF)(SN)	455-2240-ND	Digi-Key
CONN TERM BLOCK 2POS 15MM 1-8AWG	J2	MOLEX-0399200302	SCREW_TERM_115A	1	Molex	0399200302	WM20114-ND	Digi-Key
HIGH QUALITY GOLD PLATED XT90 MA	13	XT90	XT90	1	DFRobot	FIT0588	1738-1438-ND	Digi-Key
CONN HEADER R/A 4POS 2.54MM	14	MOLEX-22-05-3041_V	CON_4M_TH_RA	1	Molex	22-05-3041	WM4302-ND	Digi-Key
CONN HEADER VERT 8POS 2.54MM	JS	HEADER_2X4	HEADER 4X2	1	Harwin Inc.	M20-9980445	952-2122-ND	Digi-Key
12_9+3_Position Card Connector Secure Digital - SD Surface Mount, Right	16	HRS_DM1AA-SF- PEJ(21)	SD_CARD_CON	1	Hirose Electric Co Ltd	DM1AA-SF-PEJ(21)	HR845CT-ND	Digi-Key
Angle Gold FIXED IND 15UH 1.9A		IND_BOURNS_SRN60					SRN6045-150MCT-	
95.8MOHM SMD	L1	45	IND_15uH_1.9A	1	Bourns Inc.	SRN6045-150M	ND	Digi-Key
LCD COG GRAPHIC 128X32	LCD1	NHDC12832A1ZFSWF BW3V3	NHD-C12832A1Z-FSW- FBW-3V3	1	Newhaven Display Intl	NHD-C12832A1Z- FSW-FBW-3V3	NHD-C12832A1Z- FSW-FRW-3V3-ND	Digi-Key
6cm x 6cm	MH1 MH2 MH3 MH4	MOUNTING HOLE	MOUNTING HOLES					
MOSFET P-CH 40V	Q1, Q2	D-PAK	PMOS 40V 40A		Alpha & Omega Semiconductor	AOD4189	785-1351-1-ND	Digi-Key
40A TO252 MOSFET N-CH 100V				-	Inc.		FDBL0240N100CT-	
210A POWER56 NMOS N-CH 60V	Q3, Q4, Q5, Q6	8-HPSOF	NMOS_100V_210A	4	Semiconductor	FDBL0240N100	ND	Digi-Key
310mA SOT-323 NMOS N-CH 50V	Q7	SOT323	NMOS_60V_310mA	1	Nexperia	2N70028KW,115	1727-4788-1-ND	Digi-Key
200mA 1.2V DRIVE SOT-23-3	Q8	SOT23-3	NMOS_50V_200mA	1	Rohm Semiconductor	RUC002N05HZGT1 16	RUC002N05HZGT1 16CT-ND	Digi-Key
RES SMD 20 OHM 1% 1/8W 0805	R1, R4	RESC2012X60N	RES_200_0805	1	Yageo	RC0805FR-0720RL	311-20.0CRCT-ND	Digi-Key
RES SMD 100 OHM 1% 1/8W 0805	R2, R3, R24, R25, R30, R31, R32, R33, R35, R36, R39, R42, R43, R47	RESC2012X60N	RES_1000_0805	14	Yageo	RC0805FR- 07100RL	311-100CRCT-ND	Digi-Key
RES SMD 10K OHM 1% 1/8W 0805	R5, R6, R7, R8, R9, R23, R27, R34, R37, R38, R45, R46, R48, R49, R50, R51, R52	RESC2012X60N	RES_10kΩ_0805	17	Yageo	RC0805FR-0710KL	311-10.0KCRCT- ND	Digi-Key
RES SMD 1K OHM 1% 1/8W 0805	R10, R11, R26, R28	RESC2012X60N	RES_1kΩ_0805	4	Yageo	RC0805FR-071KL	311-1.00KCRCT- ND	Digi-Key
RES SMD 51K OHM 1% 1/8W 0805	R12	RESC2012X60N	RES_51kΩ_0805	1	Vishay Dale	CRCW080551K0FK	541-51.0KCCT-ND	Digi-Key
RES SMD 1K OHM 1% 1/8W 0805	R14	RESC2012X60N	RES_1kΩ_0805	1	Yageo	RC0805FR-071KL	311-1.00KCRCT- ND	Digi-Key
RES SMD 22.1K OHM 1% 1/8W 0805	R15	RESC2012X60N	RES_22.1kg_0806	1	Vishay Dale	CRCW080522K1FK	541-22.1KCCT-ND	Digi-Key
RES 200 OHM 5% 1W	R16. R17	RESC6532X75N	RES 2000 2512		Stackpole	EA RMCF2512JT200R	RMCF2512JT200R	Digi-Key
2512 RES SMD 10M OHM	R18, R19, R20, R21,	RESC2012X60N	RES 10MQ 0805		Electronics Inc Yageo	RC0805JR-0710ML	CT-ND 311.10MARCT.ND	Digi-Key
5% 1/8W 0805 RES SMD 510 OHM 1%	R40, R41	RESC2012X60N	RES_5100_0805			RC0805JR-07T0ML		
1/8W 0805 RES SMD 1.1K OHM	R22				Yageo	07510RL	311-510CRCT-ND 311-1.10KCRCT-	Digi-Key
1% 1/8W 0805 RES 0.001 OHM 1%	R29	RESC2012X60N	RES_1.1kΩ_0805	1	Yageo	RC0805FR-071K1L WSLP59311L000F	ND	Digi-Key
10W 5931 THERMISTOR NTC	R44	RES-5931 HDR1X2 - PTH	RES_1mD_5931 THERM 10k FREE HA	1	Vishay Dale	EA NXFT15XH103FA2	541-10012-1-ND	Digi-Key
10YOUAL 2200Y DEAD	RT1	Thermistor	NGING	1	Murata	NXF115XH103FA2 B100	490-5630-ND	Digi-Key
THERMISTOR NTC 10K 1% OHM 0603	RT2	RESC0603(1608)_N	THERM_10k_0603	1	TDK	NTCG163JF103FT1	445-2554-1-ND	Digi-Key
Tactile Switch (Grey)	\$1, \$2	B3U-1000P	SW_TACTILE	1	Omron Electronics Inc-EMC Div	B3U-1000P	SW1020CT-ND	Digi-Key
SWITCH SLIDE SPST 500mA (DC) 8.5A (AC)	S3	GF1230054	GF-123-0054	1	CW Industries	GF-123-0054	CWI333-ND	Digi-Key
Loop testpoint through-hole pad	TP1, TP2, TP3, TP4, TP5, TP6, TP8, TP9, TP10, TP11, TP12, TP13, TP14, TP15, TP16, TP17, TP18, TP19, TP20, TP21, TP22	TESTPOINT_LOOP	TESTPOINT_LOOP	21	Keystone Electronics	5002	36-5002-ND	Digi-Key
ARM Cortex-M4 32- bit MCU+FPU, 512 KB Flash, 128 KB Internal RAM, 50 I/Os, 64-Pin LQFP, -40 to 85 degC, Tray	U1	STM-LQFP64_L	MCU_STM32F446RET 6	1			497-15376-ND	Digi-Key
IC REG BUCK ADJUSTABLE 1A 8SOPWR	U2	8-SO PowerPad	BUCK_1-28VOUT_1A	1	Texas Instruments	LMR23610ADDAR	296-47267-1-ND	Digi-Key
POWER MANAGEMENT IC: Battery Multi- Function Controller IC	U3	BQ40Z80RSMT	BATT_MANAGER	1	Texas Instruments	BQ40Z80RSMT	296- BG40Z80RSMTCT- ND	Digi-Key
Lithium Ion/Polymer 32-VQFN (4x4)								
12-VQFN (4x4) 1C REG LINEAR 3V 150MA SOT23-5	U4	SOT23-5	LP3985IM5-3.0/NOPB	1	Texas Instruments	LP3985IM5- 3.0/NOPB	LP3985IM5- 3.0/NOPBTR-ND	Digi-Key