

Bill of Materials – Chameleon Drink Coasters – Electronics

of boards goal: 1000

Projects and Stuff LLC - <http://www.projectsandstuff.com>

Total BOM Parts Cost: \$5,635.72

Description	Mfg Part #	Package	KICad Footprint	Default Supplier	Supplier On Hand	Qty per board	Total Qty Needed	Price per part at Qty	Total Price	Notes	Part References
Capacitor Ceramic 47uF 6.3V 20%	JMK316B1476ML-T	1206		Digikey	186,142	1	1000	\$0.28800	\$288.00	Output Capacitor used with Boost Regulator	C12
Capacitor Ceramic 10uF 10V Y5V	C3216YSV1A106Z/0.85	1206		Digikey	116,496	2	2000	\$0.03825	\$76.50	Input Capacitor used with Boost Regulator	C9, C14
Capacitor Ceramic 8pF 50V	CC0805DRNPO98N8RQ	0805		DigiKey	7,417	2	2000	\$0.01650	\$33.00	Used for Crystal loading	C4, C5
Capacitor Ceramic 0.1uF 50V 10%	GRM319R71H104KA01D	1206		DigiKey	310,439	9	9000	\$0.01407	\$126.63	Used for Power Input/Output filtering and Decoupling	C1, C2, C3, C6, C7, C8, C10, C11, C13
Capacitor Ceramic 4.7nF 50V 10%	CC1206KRX7R9B8472	1206		DigiKey	55,807	1	1000	\$0.02520	\$25.20	Used for QMatrix RY line capacitors	CS0
Resistor 1kΩ 1/4W 5%	RC1206JR-071KL	1206		DigiKey	151,361	2	2000	\$0.00447	\$8.94	Used for QMatrix X&Y line resistors	RX0, RY0
Resistor 470K OHM 1/4W 5%	RC1206JR-07470KL	1206		DigiKey	38,808	1	1000	\$0.00447	\$4.47	Used for QMatrix RY line resistors	RYB0
Resistor 220Ω 1/4W 5%	RC1206JR-07220RL	1206		Digikey	100,000	10	10000	\$0.00283	\$28.30	Current Limiting for Blue & Green LEDs (Any resistor around 220 Ohms and with the same package will do)	R12, R13, R14, R15, R16, R17, R18, R19, R20, R21
Resistor 330Ω 1/4W 5%	RC1206JR-07330RL	1206		Digikey	625,000	6	6000	\$0.00283	\$16.98	Current Limiting for Red LEDs (Any resistor around 330 Ohms and with the same package will do)	R6, R7, R8, R9, R10, R11
Resistor 10kΩ 1/4W 5%	RC1206JR-0710KL	1206		DigiKey	1,480,000	2	2000	\$0.00283	\$5.66	Pull-up resistors	R4, R5
Resistor 1.8kΩ 1/4W 5%	RC1206JR-071K8L	1206		Digikey	141,711	2	2000	\$0.00447	\$8.94	Pull-up and series resistors for I2C SCK and SDA lines	R1, R2
Resistor 100Ω 1/4W 5%	RC1206JR-07100RL	1206		Digikey	362,104	2	2000	\$0.00447	\$8.94	Series resistors for SCK and SDA lines	R3, R22
Inductor 33uH 10%	L83218T330K	1207		DigiKey	2,440	2	2000	\$0.06975	\$139.50	Used with AVR Analog Reference Filtering and Boost Regulator	L1, L2
PLCC-6 RGB LED		5.0mm x 5.0mm				5	5000		\$9.00	LED Lighting	LED1, LED2, LED3, LED4, LED5
LED Red Diffused	LH N974-KN-1	1206		DigiKey	586,403	1	1000	\$0.05980	\$59.80	Power/Status Indicator	D2
Diode Schottky 40V 750mA	BAT750TA	SOT-23-3		Digikey	22,159	1	1000	\$0.09476	\$94.76	Used with Boost Regulator. Typical Forward Voltage = 290mV @ 250mA	D1
Crystal 20 MHz 8pF	NX5032GA-20.000000MHZ-LN-CD-1	5.0 mm x 3.2 mm		DigiKey	4,000	1	1000	\$0.30240	\$302.40	AVR Timing	X1
Switch Tactile SPST-NO 0.05A 15V	TL3315NF160Q	4.5mm x 4.5mm		DigiKey	112,229	2	2000	\$0.12870	\$257.40	AVR Reset and Mode Switch	S1, S2
IC Microcontroller AVR 8KB 20MHZ	ATTINY84A-SSUR	14 SOIC		Digikey	1,439	1	1000	\$0.82460	\$824.60	Microcontroller	IC1
IC Boost Regulator 5V 0.2A	NCP1402SN50T1G	6-TSOP (0.059", 1.50mm Width) 5 leads		Digikey	1,335	1	1000	\$0.33000	\$330.00	Also available at Newark, Farnell, Avnet, Verical, etc	U3
IC LED Driver RGBA	PCA9685PW.112	TSSOP-28		Future	1,375	1	1000	\$0.95000	\$950.00	Also available at Digikey and Verical	U1
Battery (Li-Poly 3.7V 500mAh)	JHY-303450	50.5mm x 34.5 mm x 3.2mm		Shenzhen Puchuangyuan Technology Co. Ltd		1	1000	\$1.66000	\$1,660.00	Nominal Voltage: 3.7V	BT1
Connector Receptical USB Micro B	ZX62-B-5PA(11)	USB - Micro B		Digikey	19,970	1	1000	\$0.38570	\$385.70	USB Connector for charging	U2