

Ref

Power Supply

J1
D2
L2
R1
R2, R11
C1
C2
C4, C5, C11
L3
U2
R4
R7
R8
C8, C9
R9
U3
R10
C12, C30
C10
LED1

Digital System

JP1
OSC1
R21
C13-28
D1
SPK
U7
LED2-9
R12-19
J3
U1
U4
U5
U6
U8
J4
J1
J2
R20, 22
OSC2

J5
Display
PCB
C29
R23, R24

MainBrain MZ BOM

Device

Power jack
 Polarity Protection Diode
 Input Filter Inductor
 RES SMD 10K OHM 0.1% 1/16W 0402
 RES SMD 1.5K OHM 0.1% 1/16W 0402
 CAP CER 10UF 35V X6S 1206
 CAP CER 0.1UF 35V X7R 0402
 0.1 μ F \pm 10% 6.3V Ceramic Capacitor X5R 0402
 Flyback inductor
 Buck Regulator
 PS Enable Upper, Reset Pullup 100K 1% 0402
 PS Feedback upper 26.1K 0402
 PS Feedback lower 10K 0402
 PS Output Cap 22uF 6.3V Low ESR 1206
 Isense 100m 1% 0805
 Current Monitor SOT23-3
 2.49K OHM 1% 1/10W 0402
 1 μ F \pm 10% 6.3V Ceramic Capacitor X5R 0402
 PS Input Cap .01uF 35V Low ESR 0402
 Power indicator, Green

Connector Header Through Hole, Right Angle 2 position
 24 MHz XO (Standard) CMOS Oscillator 3.3V
 180 Ohms \pm 1% 0.063W, 1/16W Chip Resistor 0402
 0.1 μ F \pm 10% 6.3V Ceramic Capacitor X7R 0402
 Diode 10 V 750mA Surface Mount SOD-323
 Buzzers Transducer, Externally Driven Magnetic 3.6 V 100mA 2.73kHz 80dB @ 3.6V,
 Bipolar (BJT) Transistor NPN 60 V 1 A 150MHz 500 mW
 Red LED Indication - Discrete 2V 0805
 1.5 kOhms \pm 0.1% 0.063W, 1/16W Chip Resistor 0402
 Connector Header Through Hole, Right Angle 5 position
 MIPS32® M-Class PIC® 32MZ Microcontroller IC 32-Bit
 Supervisor Open Drain or Open Collector 1 Channel SOT-23-3
 SRAM - Dual Port, Asynchronous Memory IC 64Kbit Parallel 15 ns 64-TQFP (14x14)
 FLASH Memory IC 4Mbit Parallel 70 ns 32-TSOP
 P-Channel 20 V 3.1A 860mW , 1.6W Surface Mount SOT-23-3
 Connector Header Surface Mount, Right Angle 68 position 0.050" (1.27mm)
 50 Position FFC, FPC Connector Contacts, Bottom 0.020" (0.50mm) Surface Mount, Right Angle
 8 Position FFC, FPC Connector Contacts, Bottom 0.020" (0.50mm) Surface Mount, Right Angle
 2 kOhms \pm 1% 0.063W, 1/16W Chip Resistor 0402 (1005 Metric) Moisture Resistant Thick Film
 32.768 kHz XO (Standard) CMOS Oscillator 1.6V ~ 3.6V Enable/Disable 4-SMD, No Lead

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USB - mini B Receptacle Connector 5 Position Through Hole, Right Angle
320x480 Capacitive Touchscreen TFT LCD Display
PCB Way
10 μ F \pm 20% 6.3V Ceramic Capacitor X5R 0402
100 kOhms \pm 1% 0.063W, 1/16W Chip Resistor 0402 Thick Film

Part #	Price	Num Req	Total
CP-102BH-ND	\$0.70	1	\$0.70
ES2AA-FDITR-ND	\$0.35	1	\$0.35
Amazon	\$1.00	1	\$1.00
PFR05S-103-FNH	\$0.10	1	\$0.10
YAG1380CT-ND	\$0.16	2	\$0.32
GRT31CC8YA106ME01L	\$0.49	1	\$0.49
C1005X7R1V104K050BB	\$0.10	1	\$0.10
0402X104K6R3CT	\$0.10	3	\$0.30
	\$1.00	1	\$1.00
RT8284NGS	\$0.79	1	\$0.79
AC0402FR-07100KL	\$0.10	1	\$0.10
RC0402FR-0726K1L	\$0.10	1	\$0.10
RC0402FR-0710KL	\$0.10	1	\$0.10
CL31B226KQHNNWE	\$0.43	2	\$0.86
RL0805FR-070R1L	\$0.70	1	\$0.70
ZXCT1107SA-7	\$0.87	1	\$0.87
ERJ-2RKF2491X	\$0.10	1	\$0.10
NMC0402X5R105K6.3TRPF	\$0.18	2	\$0.36
0402B103K500CT	\$0.10	1	\$0.10
CMD17-21VGD/TR8	\$0.72	1	\$0.72
10129379-902001BLF	\$0.10	1	\$0.10
ASE-24.000MHZ-L-C-T	\$1.05	1	\$1.05
RMCF0402FT180R	\$0.10	1	\$0.10
CL05B104KQ5NNNC	\$0.10	16	\$1.60
ZLLS410TA	\$0.43	1	\$0.43
CMT-7525-80-SMT-TR	\$1.26	1	\$1.26
FMMT491TA	\$0.44	1	\$0.44
CMD17-21VRD/TR8	\$0.57	8	\$4.56
YAG1380CT-ND	\$0.10	8	\$0.80
PH1RB-05-UA	\$0.18	1	\$0.18
PIC32MZ2048EFH100-250I/PT	\$16.26	1	\$16.26
MCP120T-300I/TT	\$0.60	1	\$0.60
70V05L15PFG	\$46.32	1	\$46.32
SST39VF040-70-4C-WHE-T	\$1.78	1	\$1.78
Si2301CDS-T1-E3	\$0.37	1	\$0.37
1377304	\$2.69	1	\$2.69
FH12-50S-0.5SH(55)	\$3.66	1	\$3.66
FH12-8S-0.5SH(55)	\$1.55	1	\$1.55
RC0402FR-072KL	\$0.10	2	\$0.20
ECS-327MVATX-3-CN-TR3	\$1.10	1	\$1.10

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54-00019	\$0.69	1	\$0.69
CFAF320480C7-035TC	\$45.30	1	\$45.30
	\$17.00	1	\$17.00
GRM155R60J106ME05D	\$0.10	1	\$0.10
CRCW0402100KFKEDC	\$0.10	1	\$0.10

\$157.30