

# RavAGE 0.1-alpha

## Bill of Materials

### CPU.SchDoc

Designator	Description	Manufacturer Part No.	Manufacturer	Element14 Part No.	Qty	Price (ea)	Sub-Total
R1	3k3 Resistor 100mW 1% 0603	RC0603FR-073K3L	YAGEO (PHYCOMP)	9238549 (min order qty of 50)	50	\$0.008	\$0.400
R2, R3, R4, R5, R6	10k Resistor 100mW 1% 0603	RC0603FR-0710KL	YAGEO (PHYCOMP)	9238603 (min order qty of 50)	50	\$0.008	\$0.400
R7	2k4 Resistor 100mW 1% 0603	CRCW06032K40FKEA	VISHAY DRALORIC	1469766	1	\$0.050	\$0.050
R8	1k Resistor 100mW 1% 0603	RC0603FR-071KL	YAGEO (PHYCOMP)	9238484 (min order qty of 50)	50	\$0.008	\$0.400
C1, C2, C3, C4, C5, C6, C11, C12, C13	0.22uF Capacitor X7R Ceramic 10V 10% 0603	0603ZC224KAT2A	AVX	1327683 (min order qty of 10)	10	\$0.106	\$1.060
C7, C8	18pF Capacitor C0G/NP0 Ceramic 50V 5% 0603	C0603C180J5GACTU	KEMET	1414620 (min order qty of 10)	10	\$0.024	\$0.240
C9	6.8nF Capacitor C0G/NP0 Ceramic 50V 10% 0603	C0603C682K5RACTU	KEMET	1414649 (min order qty of 10)	10	\$0.026	\$0.260
C10	680pF Capacitor C0G/NP0 Ceramic 100V 5% 0603	C0603C681J1GACTU	KEMET	1813442 (min order qty of 10)	10	\$0.114	\$1.140
C14, C19	0.1uF Capacitor X7R Ceramic 10V 10% 0603	MCCA000255	MULTICOMP	1759122 (min order qty of 100)	100	\$0.016	\$1.600
C15, C16, C17, C18	10uF Capacitor MLCC 10V 10% 0805	100R15X106KV4E	JOHANSON DIELECTRICS	1886102 (min order qty of 10)	10	\$0.258	\$2.580
D1	LED 0603						\$0.000
J1	BDM Header 2x3 DIL						\$0.000
JP1	Firmware Load Jumper, Header 1x2 SIL						\$0.000
Y1	Crystal 16.0Mhz 18pF HC49/US	HCM49 16.000MABJ-UT	CITIZEN AMERICA	1611734	1	\$1.200	\$1.200
Y2	Crystal 32.768kHz 12.5pF SMD	ABS10-32.768KHZ-T	ABRACON	1633675	1	\$1.800	\$1.800
U1	IC, MICROCONTROLLER, LQFP-144	MC9S12XDP512MAG	FREESCALE	1579847	1	\$39.240	\$39.240
U2	IC, RTCC, SOIC-8	M41T56M6E	STMICROELECTRONICS	9882650	1	\$2.400	\$2.400

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Power Supplies.SchDoc							
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R9	20k Resistor 100mW 1% 0603	ERJ3EKF2002V	PANASONIC	2059432 (min order qty of 50)	50	\$0.020	\$1.000
R10	29k4 Resistor 100mW 0.1% 0603	RP73D1J29K4BTDG	TE CONNECTIVITY	1752638 (min order qty of 5)	5	\$2.040	\$10.200
R11	330R Resistor 1W 1% 2512	RC2512FK-07330RL	YAGEO (PHYCOMP)	1283136 (min order qty of 5)	5	\$0.860	\$4.300
R12	470R Resistor mW 1% 0603	RC0603FR-07470RL	YAGEO (PHYCOMP)	9238441 (min order qty of 50)	50	\$0.008	\$0.400
R13, R14, R16	10k Resistor 100mW 0.1% 0603	RG1608N-103-B-T1	SUSUMU	1653317	3	\$1.120	\$3.360
R15	604R Resistor 100mW 0.1% 0603	RP73D1J604RBTDG	TE CONNECTIVITY	1752458	5	\$0.992	\$4.960
C20	10uF Capacitor MLCC 35V 10% 1206	GMK316AB7106KL-TR	TAIYO YUDEN	2100124	1	\$1.160	\$1.160
C21	22uF Capacitor MLCC 10V 10% 1210	MCCA000576	MULTICOMP	1759459 (min order qty of 10)	10	\$0.376	\$3.760
C22	0.1uF Capacitor X7R Ceramic 50V 10% 0603	06035C104JAT2A	AVX	1740621 (min order qty of 10)	10	\$0.876	\$8.760
C23	0.1uF Capacitor X7R Ceramic 10V 10% 0603	***refer to C14, C19 on CPU.SchDoc page of BOM***			0	\$0.000	\$0.000
C24	470nF Capacitor X7R Ceramic 50V 10% 0805	C0805C474K5RACTU	KEMET	1907053 (min order qty of 10)	10	\$0.376	\$3.760
C25	47uF Capacitor MLCC 10V 20% 1210	MCCA000578	MULTICOMP	1759461 (min order qty of 10)	10	\$1.820	\$18.200
5VLED	LED 0603						\$0.000
F1, F2	POLYFUSE, 500mA, 15V, 1812L	1812L050PR	LITTELFUSE	1597001 (min order qty of 10)	10	\$1.140	\$11.400
Q1	TRANSISTOR, PNP, MJD127, TO-252	MJD127G	ON SEMICONDUCTOR	9557083	1	\$0.382	\$0.382
U3	LDO REGULATOR, LM2937ES-5.0, TO-263-3	LM2937ES-5.0/NOPB	NATIONAL SEMI	1469067 (min order qty of 5)	5	\$1.800	\$9.000
U4	LDO REGULATOR, LM2941S, TO-263-5	LM2941S/NOPB	NATIONAL SEMI	1150164	1	\$3.520	\$3.520
U5	PRECISION ADJ ZENER, TL-431	TL431CDBZRG4	TEXAS INSTRUMENTS	1053415	1	\$0.836	\$0.836

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USB Comms.SchDoc							
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R17	2k Resistor 100mW 1% 0603	MCMR06X2001FTL	MULTICOMP	2073418 (min order qty of 100)	100	\$0.020	\$2.000
R18, R19, R20	1k Resistor 100mW 1% 0603	***refer to R8 on CPU.SchDoc page of BOM***			0	\$0.000	\$0.000
C26	4.7uF Capacitor MLCC 10V 10% 0603	0603ZD475KAT2A	AVX	1833806 (min order qty of 10)	10	\$0.328	\$3.280
C27, C29	0.1uF Capacitor X7R Ceramic 10V 10% 0603	***refer to C14, C19 on CPU.SchDoc page of BOM***			0	\$0.000	\$0.000
C28	10nF Capacitor X7R Ceramic 50V 10% 0603	06035C103K4Z2A	AVX	1833842 (min order qty of 5)	5	\$0.090	\$0.450
FB1	FERRITE BEAD, 0.05R, 1A, 0603	BLM18PG300SN1D	MURATA	1515741 (min order qty of 5)	5	\$0.056	\$0.280
TXLED, RXLED, CBUS3LED	LED 0603						\$0.000
U6	IC, USB TO UART, SSOP-28	FT232RL	FTDI	1146032	1	\$8.600	\$8.600
U7	ISOLATOR, DIGITAL, 150NS, SOIC-8	ADUM3201ARZ	ANALOG DEVICES	2102513	1	\$5.170	\$5.170
USB	MINI USB TYPE B, RECEPTACLE	51387-0578	MOLEX	1507961	1	\$0.571	\$0.571
CBUSIO	Header 1x2 SIL						\$0.000

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RS232 Comms.SchDoc							
Designator	Description	Manufacturer Part No.	Manufacturer	Element14 Part No.	Qty	Price (ea)	Sub-Total
C30, C31, C32, C33, C34	0.1uF Capacitor X7R Ceramic 10V 10% 0603	***refer to C14, C19 on CPU.SchDoc page of BOM***			0	\$0.000	\$0.000
U8	IC, TRANSCEIVER, SOIC-16	MAX232ACWE	MAXIM	9724370	1	\$9.140	\$9.140
J2	SOCKET, 3.5MM, JACK, PCB, 3POLE	4832.232	SCHURTER	152204 (min order qty of 2)	2	\$5.480	\$10.960
JP2	Header 1x2 SIL						\$0.000

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