

CO Detector demonstrator - Bill of Material



Number	Reference	Part	Description	Package	Manufacturer	Data Sheet
1 1	U1	RL78 I1D R5F117GCGFB	16-bit MCU RL78/I1D	QFPP 48 pins	Renesas Electronics	
2 1	AC-903A-RPA	AS-903Q BUZZER-AC-903Q-P6	Buzzer		Advanced Acoustic Technology Corporation (www.aatc.com.tw)	
3 1	CN01,CN02	2x13 pin header 2,54mm 180 (M)	Male Header	0.1 inch (2.54mm) spacing	Common	
4 1	CO1	CO sensor TGS5042-A00	CO Sensor		Figaro	TGS5042.pdf
5 1	C1	0.47uF C0603	Chip Capacitor	603	Common	
6 11	C2,C3,C8,C9,C10,C11,C14,C17,C18,C19,C23	0.1uF C0603	Chip Capacitor	603	Common	
7 2	C4,C5	20pF C0603	Chip Capacitor	603	Common	
8 2	C6,C7	10pF C0603	Chip Capacitor	603	Common	
9 1	C12	10uF C0805	Chip Capacitor	805	Common	
10 4	C13,C15,C16,C20	1uF C0603	Chip Capacitor	603	Common	
11 3	C35,C36,C58	1nF C0603	Chip Capacitor	603	Common	
12 NO	DNI_J1,DNI_J2,DNI_J3,DNI_J4	1X12P254 Male Header	Male Header	0.1 inch (2.54mm) spacing	Common	
13 NO	DNI_J5,DNI_J6,DNI_J7,DNI_J8, DNI_J9,DNI_J14,DNI_J15,DNI_J16	1X2P254 Male Header	Male Header	0.1 inch (2.54mm) spacing	Common	
14 4	J1,J2,J3,DNI_J10 (only DNI_J10 is not mounted)	CON2 2P254 Male Header	Male Header	0.1 inch (2.54mm) spacing	Common	
15 1	D1	LS4148 SMD-D	Diode	3.7mm x 1.6mm	Digikey (Vishay)	
16 1	D3	ZLLS410 SOD323 (BAT60J)	Diode	SOD323	Digikey (Diodes Incorporated)	
17 2	JP10,JP11	VR-3362P-B	Potentiometer	6.99mm x 6.6mm	Digikey (Bourns)	
18 1	J4	CON3 3P254	Male Header	0.1 inch (2.54mm) spacing	Common	
19 1	J9	2X6 female header P254VD	Female Header	0.1 inch (2.54mm) spacing	Common	
20 1	L1	BLM41PG750S L1806	Inductor	1806	Digikey (Murata)	
21 2	Q1,Q3	SSM3J114TU-S323	P-Channel MOSFET Transistor	S323	Digikey (Toshiba)	
22 1	Q2	Q-2N3904S S23	Bipolar Transistor (NPN)	S23	Digikey	
23 3	R1,R3,R11	10K R0603	Chip Resistor	603	Common	
24 4	R2,R12,R31,R32	1K R0603	Chip Resistor	603	Common	
25 NO	R4,R5	DNI_10 R0603	Chip Resistor	603	Common	
26 2	R6,R41	200 R0603	Chip Resistor	603	Common	
27 1	R7	100 R0603	Chip Resistor	603	Common	
28 1	R8	3.3M R0603	Chip Resistor	603	Common	
29 2	R9,R10	47K R0603	Chip Resistor	603	Common	
30 1	R19	4.75M R0603 4.7M(1%)	Chip Resistor	603	Common	
31 1	R20	475K R0603 (1%)	Chip Resistor	603	Common	
32 1	R22	470 R0603	Chip Resistor	603	Common	
33 1	R23	3.3K R0603	Chip Resistor	603	Common	
34 1	R33	270K R0603	Chip Resistor	603	Common	
35 NO	R42,R46,R47,R48	DNI	Chip Resistor	603	Common	
36 1	R43	1M R0603	Chip Resistor	603	Common	
37 1	R44	100K R0603	Chip Resistor	603	Common	
38 1	R45	909K R0603	Chip Resistor	603	Common	
39 1	R50	2.21K R0603	Chip Resistor	603	Common	
40 1	SW1	SW-90-3.85mm SW-0770	Pushbutton Switch		Switronic (switches@ms36.hinet.net)	
41 NO	U2	AIC1701L-18GV5	Voltage Reference		Analog Integrations Corporation (www.analog.com.tw)	
42 1	Y1	FL 20MHz CRYSTAL-250200-3	20MHZ Crystal	2.5mm x 2.0mm	find replacement Digikey	
43 1	Y2	32.768KHZ CRYSTAL-320150-X	32768HZ Resonator	3.2mm x 1.5mm	find replacement Digikey	

44	1	bat	BAT-BH123A	CR123 Battery Holder		Digikey (Memory Protection Devices)	
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Note: All Chip Capacitors and Chip Resistors are 5% tolerance except for resistors marked as 1%

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