

Motion Detector demonstrator - Bill of Material



| Number | Reference | Part | Description | Package | Manufacturer | Data Sheet | |
|--------|-----------|-------------------------------|--------------------------|------------------------------|---------------------------|------------------------------------------------------------|----------------------|
| 1 | 1 | U1 | RL78 I1D R5F117GCGFB | 16-bit MCU RL78/I1D | QFPF 48 pins | Renesas Electronics | |
| 2 | 1 | AC-903A-RPA | BUZZER-AC-903Q-P6 | Buzzer | | Advanced Acoustic Technology Corporation (www.aatc.com.tw) | |
| 3 | 1 | CN01,CN02 | 2X13 pin header 2.54mm | Male Header | 0.1 inch (2.54mm) spacing | Common | |
| 4 | 1 | C1 | 0.47uF C0603 | Chip Capacitor | 603 | Common | |
| 5 | 8 | C2,C3,C8,C9,C10,C11,C14,C23 | 0.1uF C0603 | Chip Capacitor | 603 | Common | |
| 6 | 2 | C4,C5 | 20p C0603 | Chip Capacitor | 603 | Common | |
| 7 | 2 | C6,C7 | 10pF C0603 | Chip Capacitor | 603 | Common | |
| 8 | 1 | C12 | 10uF C0805 | Chip Capacitor | 805 | Common | |
| 9 | 7 | C13,C19,C20,C22,C24,C33,C34 | 1uF C0603 | Chip Capacitor | 603 | Common | |
| 10 | 2 | C21,C25 | CE 100U/16V 5*11 | Electrolytic Capacitor | Radial | Common | |
| 11 | 4 | C35,C36,C43,C45 | 1nF C0603 | Chip Capacitor | 603 | Common | |
| 12 | 2 | C44,C46 | 22nF C0603 | Chip Capacitor | 603 | Common | |
| 13 | 4 | C55,C56,C58,C59 | 22uF C1206 | Chip Capacitor | 1206 | Common | |
| 14 | 2 | C57,C60 | 10nF C0603 | Chip Capacitor | 603 | Common | |
| 15 | NO | DNI_J1,DNI_J2,DNI_J3,DNI_J4 | 1X12P254 | Male Header | 0.1 inch (2.54mm) spacing | Common | |
| 16 | NO | | 1x2P254 | Male Header | 0.1 inch (2.54mm) spacing | Common | |
| 17 | 1 | D1 | LS4148 SMD-D | 3.7mm x 1.6mm | 3.7mm x 1.6mm | Digikey (Vishay) | |
| 18 | 2 | IRA-E700STO | IRA-E710STO | Pyroelectric InfraRed Sensor | | Murata Manufacturing | PIR_Sensors_s21e.pdf |
| 19 | 4 | JP9,JP10,JP11,JP12 | VR-3362P-B | Potentiometer | 6.99mm x 6.6mm | Digikey (Bourns) | |
| 20 | 3 | J1,J2,J3 | CON2 2P254 | Male Header | 0.1 inch (2.54mm) spacing | Common | |
| 21 | 1 | J8 | 1X3P254 3P254 | Male Header | 0.1 inch (2.54mm) spacing | Common | |
| 22 | 1 | J9 | 2X6 female header P254VD | Male Header | 0.1 inch (2.54mm) spacing | Common | |
| 23 | 2 | LEN1,LEN2 | RY-21318 | Fresnel lens | | | |
| 24 | 1 | L1 | BLM41PG750S L1806 | Inductor | 1806 | Digikey (Murata) | |
| 25 | 2 | Q1,Q3 | SSM3J114TU-S323 | P-Channel MOSFET Transistor | S323 | Digikey (Toshiba) | |
| 26 | 1 | Q2 | Q-2N3904-S23 | Bipolar Transistor (2N3904) | S23 | Common | |
| 27 | 5 | R1,R3,R11,R65,R68 | 10K R0603 | Chip Resistor | 603 | Common | |
| 28 | 4 | R2,R12,R31,R32 | 1K R0603 | Chip Resistor | 603 | Common | |
| 29 | 2 | R4,R5 | Not mounted | Chip Resistor | 603 | Common | |
| 30 | 1 | R6 | 200 R0603 | Chip Resistor | 603 | Common | |
| 31 | 1 | R7 | 100 R0603 | Chip Resistor | 603 | Common | |
| 32 | 8 | R8,R9,R26,R27,R66,R69,R87,R95 | 47K R0603 | Chip Resistor | 603 | Common | |
| 33 | 2 | R15,R16 | 2.7M R0603 | Chip Resistor | 603 | Common | |
| 34 | 1 | R33 | 270K R0603 | Chip Resistor | 603 | Common | |
| 35 | 4 | R42,R46,R47,R48 | Not mounted | Chip Resistor | 603 | Common | |
| 36 | 4 | R64,R67,R88,R93 | 4.75M R0603 (1%) | Chip Resistor | 603 | Common | |
| 37 | 2 | R89,R92 | 33K R0603 | Chip Resistor | 603 | Common | |
| 38 | 2 | R90,R94 | 220K R0603 | Chip Resistor | 603 | Common | |
| 39 | 2 | R91,R96 | 1M R0603 | Chip Resistor | 603 | Common | |

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|----|---|-----|----------------------------|----------------------|---------------|-------------------------------------|--|
| 40 | 1 | SW1 | SW-90-3.85mm SW-0770 | PushButton Switch | | Switronic (switches@ms36.hinet.net) | |
| 41 | 1 | Y1 | FL 20MHz CRYSTAL-250200-3 | 20MHZ Crystal | 2.5mm x 2.0mm | find replacement Digikey | |
| 42 | 1 | Y2 | 32.768KHZ CRYSTAL-320150-X | 32768HZ Resonator | 3.2mm x 1.5mm | find replacement Digikey | |
| 43 | 1 | bat | BAT-BH123A | CR123 Battery Holder | | Digikey (Memory Protection Devices) | |

Note: All Chip Capacitors and Chip Resistors are 5% tolerance except for resistors marked as 1%

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