

| QTY | VALUE | PARTS | DESCRIPTION | MANUFACTURER PART NUMBER | VENDOR PART NUMBER | UNIT PRICE (IN 100) | EXT PRICE | MEASUREMENT | SOURCE |
|-----------------------|----------------|------------|--|--------------------------|----------------------------|---------------------|-----------|---|---|
| RESISTORS (THT) | | | | | | | | | |
| 1 | 5.1kΩ | R1 | 1/2W resistor, metal film 700V | MF12C05101F | 55-WKACT-ND | 0.3011 | 0.3011 | 0.130" Dia x 0.354" L (3.50mm x 9.00mm) | https://www.digikey.com/en/products/detail/bosch-electronics-inc/MF12C05101F/2180382 |
| 3 | 1kΩ | R2, R6, R9 | 1/4W resistor, carbon film | CF14JT1K00 | CF14JT1K00CT-ND | 0.0215 | 0.0645 | 0.091" Dia x 0.236" L (2.30mm x 6.00mm) | https://www.digikey.com/en/products/detail/cfc/CF14JT1K00/CF14JT1K00CT-ND/1830374 |
| 1 | 1kΩ | R3 | 1/4W resistor, carbon film | CF14JT1K00 | CF14JT1K00CT-ND | 0.0215 | 0.0215 | 0.091" Dia x 0.236" L (2.30mm x 6.00mm) | https://www.digikey.com/en/products/detail/cfc/CF14JT1K00/CF14JT1K00CT-ND/1830350 |
| 1 | 750 | R4 | 1/4W resistor, carbon film | CF14JT750 | CF14JT750CT-ND | 0.0215 | 0.0215 | 0.091" Dia x 0.236" L (2.30mm x 6.00mm) | https://www.digikey.com/en/products/detail/cfc/CF14JT750/CF14JT750CT-ND/1830324 |
| 1 | 6.2kΩ | R5 | 1/4W resistor, carbon film | CF14JT6K20 | CF14JT6K20CT-ND | 0.0215 | 0.0215 | 0.091" Dia x 0.236" L (2.30mm x 6.00mm) | https://www.digikey.com/en/products/detail/cfc/CF14JT6K20/CF14JT6K20CT-ND/1830369 |
| 1 | 4.7MΩ | R7 | 1/4W resistor, metal film, 1% (not 5%) | RNV14FAL4M70 | RNV14FAL4M70CT-ND | 0.063 | 0.063 | 0.094" Dia x 0.236" L (2.40mm x 6.00mm) | https://www.digikey.com/en/products/detail/skyworks-inc/RNV14FAL4M70/2865263 |
| 1 | 6.8kΩ | R8 | 0.6W resistor, carbon film, 1% (not 5%) | MB82027C08BAFC700 | BC386CT-ND | 0.076 | 0.076 | 0.091" Dia x 0.236" L (2.30mm x 6.00mm) | https://www.digikey.com/en/products/detail/bosch-electronics-inc/MB82027C08BAFC700/2068042/CT005063654 |
| 2 | 4.7kΩ | R10, R14 | 1/4W resistor, carbon film | CF14JT4K70 | CF14JT4K70CT-ND | 0.0215 | 0.043 | 0.091" Dia x 0.236" L (2.30mm x 6.00mm) | https://www.digikey.com/en/products/detail/cfc/CF14JT4K70/CF14JT4K70CT-ND/1741428 |
| 1 | 10MΩ | R11 | 1/4W resistor, metal film 700V | VR25000001005JR500 | 56-VR25000001005JR500CT-ND | 0.1181 | 0.1181 | 0.098" Dia x 0.256" L (2.50mm x 6.50mm) | https://www.digikey.com/en/products/detail/vishay-beyschlag-ds-tronic-bc-components/VR25000001005JR500/7350778 |
| 1 | 22kΩ | R12 | 1/4W resistor, carbon film | CF14JT22K0 | CF14JT22K0CT-ND | 0.0215 | 0.0215 | 0.091" Dia x 0.236" L (2.30mm x 6.00mm) | https://www.digikey.com/en/products/detail/cfc/CF14JT22K0/CF14JT22K0CT-ND/1830383 |
| 1 | 5.1MΩ | R13 | 1/4W resistor, metal film 700V | VR25000005104JA100 | BC480CT-ND | 0.0978 | 0.0978 | 0.098" Dia x 0.256" L (2.50mm x 6.50mm) | https://www.digikey.com/en/products/detail/vishay-beyschlag-ds-tronic-bc-components/VR25000005104JA100/7350796 |
| 1 | 20kΩ | RV1 | Potentiometer, 1/2W 1.0 Turn | 3362P-1-203LF | 3362P-203LF-ND | 0.7575 | 0.7575 | 0.275" x 0.260" Face (6.99mm x 6.60mm) | https://www.digikey.com/en/products/detail/bourns-pw/3362P-1-203LF/1088417 |
| CAPACITORS (THT) | | | | | | | | | |
| 2 | 10µF | C1, C3 | MLCC in radial package with 0.1" lead spacing required | FG18XSR1E106MRT06 | 445-FG18XSR1E106MRT06CT-ND | 0.2043 | 0.4086 | 0.157" L x 0.096" W (4.00mm x 2.50mm) | https://www.digikey.com/en/products/detail/tdk-corporation/FG18XSR1E106MRT06/7384735 |
| 1 | 47pF | C2 | MLCC in radial package with 0.1" lead spacing required | SR152A470KAR | 478-1564-ND | 0.1315 | 0.1315 | 0.150" L x 0.100" W (3.81mm x 2.54mm) | https://www.digikey.com/en/products/detail/sr/SR152A470KAR/478-1564-ND/538806 |
| 1 | 10µF ± 10000pF | C4 | Ceramic in radial package 100V 0.2" lead spacing required | D103M2925UHBUJR | BC5213CT-ND | 0.062 | 0.062 | 0.295" Dia (7.50mm) | https://www.digikey.com/en/products/detail/vishay-beyschlag-ds-tronic-bc-components/D103M2925UHBUJR/2830060 |
| 1 | 220n ± 0.22µF | C5 | Ceramic in radial package with 0.2" lead spacing required | K224K20X7RF5UH5 | BC2678CT-ND | 0.124 | 0.124 | 0.197" L x 0.129" W (5.00mm x 3.20mm) | https://www.digikey.com/en/products/detail/vishay-beyschlag-ds-tronic-bc-components/K224K20X7RF5UH5/2356787 |
| 1 | 1µF | C6 | Ceramic in radial package with 0.2" lead spacing required | FG26X7R1E105MRT00 | 445-1818T-ND | 0.0899 | 0.0899 | 0.157" L x 0.096" W (4.00mm x 2.50mm) | https://www.digikey.com/en/products/detail/tdk-corporation/FG26X7R1E105MRT00/7336783 |
| 1 | 15µF | C7 | Ceramic in radial package with 0.15" lead spacing required | K153K10X7RF5UH5 | BC2678CT-ND | 0.0775 | 0.0775 | 0.142" L x 0.097" W (3.60mm x 2.30mm) | https://www.digikey.com/en/products/detail/vishay-beyschlag-ds-tronic-bc-components/K153K10X7RF5UH5/2356790 |
| 1 | 4.7nF | C8 | Ceramic in radial package with 0.2" lead spacing required (CHV) | S472M3925UN63JR | 1288PH-ND | 0.1444 | 0.1444 | 0.394" Dia (10.00mm) | https://www.digikey.com/en/products/detail/s472M3925UN63JR/1288PH-ND/2356824 |
| INDUCTORS | | | | | | | | | |
| 1 | 1mH | L1 | Inductor, radial package | RLB0914-102KL | RLB0914-102KL-ND | 0.26875 | 0.26875 | 0.343" Dia (8.70mm) | https://www.digikey.com/en/products/detail/bourns-rlb/RLB0914-102KL/23527737?WT.z_header=search_pdk&N=9gTCBzDdlEoBBCAGANArQwCwFoMAGkEaASAEARAF0BIA |
| DIODES | | | | | | | | | |
| 1 | LED | D1 | Blue LED 3mm 3.3V | WP710A100BCD | 754-1596-ND | 0.151 | 0.151 | 2.90mm Dia | https://www.digikey.com/en/products/detail/wpt710A100BCD/754-1596-ND/2799812 |
| 1 | BA159 | D2 | Fast switching diode, DO-41 package required | BA159-E3/54 | BA159-E3/54GCT-ND | 0.1171 | 0.1171 | DO-204AL (DO-41) | https://www.digikey.com/en/products/detail/ba159-E3/54/BA159-E3/54F8193275GCT-ND/3711780 |
| IC | | | | | | | | | |
| 1 | NJM78M05FA | U1 | Linear Voltage Regulator 5V at 500mA | NJM78M05FA | 2129-NJM78M05FA-ND | 0.7562 | 0.7562 | TO-220F | https://www.digikey.com/en/products/detail/nishimicro-devices-inc/NJM78M05FA/8057392 |
| 1 | LMC555 | U2 | LMC555 CMOS-based 555 timer | LMC555CINNOPB | LMC555CINNOPB-ND | 1.10575 | 1.10575 | 8-DIP (0.300", 7.62mm) | https://www.digikey.com/en/products/detail/linear-technology-lmc555CINNOPB/26243 |
| 2 | 8T0 | U3, U4 | N Channel MOSFET 600V 400MA TO92-3 | 2TG1HRK60R-AP | 467-19646-1-ND | 0.3879 | 0.7758 | TO-92-3 | https://www.digikey.com/en/products/detail/siliconix-inc/2TG1HRK60R-AP/46719646 |
| 1 | TL5001 | U5 | Power converter control chip | TL5001AP | 2368-10203-5-ND | 2.9365 | 2.9365 | 8-DIP (0.300", 7.62mm) | https://www.digikey.com/en/products/detail/texas-instruments-TL5001AP/236810203 |
| 1 | 2N3904 | U6 | PNP Transistor, TO-92 package | 2N3904BU | 2N3904FS-ND | 0.1169 | 0.1169 | TO-226-3, TO-92-3 (TO-226AA) | https://www.digikey.com/en/products/detail/2N3904BU/2N3904FS-ND/1413 |
| MISC | | | | | | | | | |
| 1 | SBM-20 | | Geiger Tube | SBM-20 | SBM-20 | 13 | | 13 Max Len = 108 / 101 Eff Length =91.0 / 83.5 (mm) | https://www.youtube.com/watch?v=and-geiger-tubes/241-sbm-20.html |
| 2 | DIPs | | DIP SOCKET 8 pos | ED08BT | ED0844-5-ND | 0.16283 | 0.32566 | DIP, 0.3" (7.62mm) Row Spacing | https://www.digikey.com/en/products/detail/ED08BT/ED0844-5-ND/4147684 |
| 2 | CLIPS | | Fuse clips to hold SBM-20 | 3538 | 36-3538-ND | 0.2635 | 0.527 | Fuse Size 0.25" Dia (6.35mm) | https://www.digikey.com/en/products/detail/keyence-instruments-3538/319021 |
| 1 | BOARD | | MIT-NSE Geiger Counter Board | REV9 | REV9 | 1.1677 | 1.1677 | <40-BOARD DIMENSIONS> | https://github.com/ |
| 1 | CASE | | Serpac enclosure, black, clear top | 052C-BK | 052C-BK | 7.29 | 7.29 | 5.62 x 3.25 x 1.4 in | https://www.serpac.com/v5x-enclosure.html#52-2508152-11617508175-954182-253 |
| 1 | SWITCH | | SPST Circular Switch | SW-R2-1A-F-1-5 | 2057-SW-R2-1A-F-1-5-ND | 0.4232 | 0.4232 | Circular - 20.00mm Dia | https://www.digikey.com/en/products/detail/adam-tech/SW-R2-1A-F-1-5/15284451 |
| 1 | HOLD | | 9V Battery holder | BA9VPC | BA9VPC | 1.7901 | 1.7901 | Height Above Board 0.843" (21.41mm) | https://www.digikey.com/en/products/detail/mpd-memory-protection-devices-BA9VPC/2439228 |
| 1 | BATT | | Energizer Industrial 9V | EN22 | EN22 | 1.431 | 1.431 | 49x46 5mm | https://a.co/gdJAS1C5 |
| 2 | SPACE | | Spacer Connector | 197084013 | WM14275CT-ND | 0.0838 | 0.1672 | Length 0.107" (12.95mm), Width 0.187" (4.75mm) | https://www.digikey.com/en/products/detail/siliconix-inc/197084013/1838362 |
| 4 | SCREW | | #4-40x3/16" pan head thread-cutting screw | 90087A105 | 90087A105 | 0.1018 | 0.4072 | #4-40x3/16" | https://www.mcmaster.com/90087A105/ |
| 2 | CONN | | Female TO Female spade connection wires (4.8mm) | N/A | N/A | 0.467 | 0.934 | 4.8mm spade, 11.82" Length | https://a.co/cv3d3t8h |
| 1 | AUDIO | J2 | Audio Connection Jack (female) 3.5mm | 54-00298 | 839-54-00298CT-ND | 0.8888 | 0.8888 | 3.50mm (0.141", 1/8", Mini Plug) - Headphone | https://www.digikey.com/en/products/detail/tenality-international-corp/54-00298/16579528 |
| OPTIONAL | | | | | | | | | |
| 1 | ESP32 | | ESP32-C3 DevKitC-02 | ESP32-C3-DevKitC-02 | 396-ESP32C3DEVKIT02 | 8 | 8 | | https://www.mouser.com/ProductDetail/Esspress-Systems/ESP32-C3-DevKitC-02?qs=tsO41AwK7%2F1G5Qyq4CMA%3D%3DAmgh&1&srsltid=AfmBOopQO23uqG-q-p63nKXwUUB0_7VzA0ByMhYK09_0XW6Z3963HgC8 |
| 2 | HEADER | | 15 POS Female pinheader | PPTC15-LFBN-RC | 57013-ND | 0.75075 | 1.5015 | Pitch - Mating 0.100" (2.54mm) | https://www.digikey.com/en/products/detail/will-concrete-solutions-PPTC15-LFBN-RC/810153 |
| 1 | PWR | J1 | 9V Connector Power Jack (Female) 2.1X5.5mm | EJ508A | EJ508A-ND | 1.0443 | 1.0443 | 2.1x5.5mm | https://www.digikey.com/en/products/detail/mpd-memory-protection-devices-EJ508A/2439547 |
| 1 | M4011 | | Alternate usable geiger tube | M4011 | | | | | |
| PACKAGING | | | | | | | | | |
| 1 | BOX | | 8 x 8 x 2-inch Literature Mailers | | | 0.8014 | 0.8014 | 8" x 8" x 2" | https://a.co/g24CdmVn |
| 7 | PINK BAG | | Pink Anti-Static Seal Top Bag | | | 0.383 | 0.561 | 2.5" x 3" | https://a.co/g29bCnM0g |
| 27 | BAG | | Zipper Lock Reclosable Clear Disposable Plastic Bags | | | 0.01299 | 0.35073 | 2" X 3" - 2 MIL | https://a.co/g069HEJNS |
| 1 | BUBBLE | | Anti-Static Bubble cushioning for SBM-20 and Board | | | 0.17 | 0.17 | 18" | https://a.co/g05cyF5Bq |
| 26 | LABEL | | Premium Label Supply White Sticker Square Labels - 1.5" x 1.5" | | | 0.02 | 0.52 | 1.5"x1.5" | https://a.co/g9N0v4M |
| 1 | BIG BAG | | GPI - 100 Count 8" X 8" Zip Bags, Heavy-Duty 4 Mil Thick | | | 0.13 | 0.13 | 8" x 8" | https://a.co/g4880Bq |
| 1 | INSERT | | | | | | 0 | | |
| 12 | INSTRUCTIONS | | 12 pages color | | | 0.15 | 1.8 | | |
| ALTERNATE SMD R and C | | | | | | | | | |
| RESISTORS (SMD) | | | | | | | | | |
| 1 | 5.1kΩ | R1 | 5.1 kOhms ±1% 0.25W, 1/4W Chip Resistor 1206 (3216 Metric) Au CROW12069K10FKEA | 541-5.1KMFCT-ND | | 0.0316 | | 1206 (3216 Metric) | https://www.digikey.com/en/products/detail/vishay-dale/CRCW12069K10FKEA/1176724 |
| 3 | 1kΩ | R2, R6, R9 | 10 kOhms ±1% 0.25W, 1/4W Chip Resistor 1206 (3216 Metric) Au/RMCF1206FT1K00 | RMCF1206FT1K00CT-ND | | 0.013 | | 1206 (3216 Metric) | https://www.digikey.com/en/products/detail/skyworks-inc/RMCF1206FT1K00/7336668 |
| 1 | 1kΩ | R3 | RES 1K OHM 5% 1/4W 1206 | RMCF1206JT1K00 | RMCF1206JT1K00CT-ND | 0.01 | | 1206 (3216 Metric) | https://www.digikey.com/en/products/detail/skyworks-inc/rmcf1206jt1k00/1767528 |
| 1 | 750 | R4 | RES 75 OHM 5% 1/4W 1206 | RMCF1206JT75R0 | RMCF1206JT75R0CT-ND | 0.01 | | 1206 (3216 Metric) | https://www.digikey.com/en/products/detail/skyworks-inc/rmcf1206jt75r0/17513880 |
| 1 | 6.2kΩ | R5 | 6.2 kOhms ±1% 0.25W, 1/4W Chip Resistor 1206 (3216 Metric) Au/RMCF1206FT6K20 | RMCF1206FT6K20CT-ND | | 0.013 | | 1206 (3216 Metric) | https://www.digikey.com/en/products/detail/skyworks-inc/RMCF1206FT6K20/1759189 |
| 1 | 4.7MΩ | R7 | 4.7 MOhms ±1% 0.25W, 1/4W Chip Resistor 1206 (3216 Metric) Au/RMCF1206FT4M70 | RMCF1206FT4M70CT-ND | | 0.017 | | 1206 (3216 Metric) | https://www.digikey.com/en/products/detail/skyworks-inc/RMCF1206FT4M70/17593487&N=9gTCBzDdlEoBBCAGANArQwCwFoMAGkEaASAEARAF0BIA |
| 1 | 6.8MΩ | R8 | RES 6.8M OHM 1% 1/4W 1206 | RMCF1206FT6M80 | RMCF1206FT6M80CT-ND | 0.017 | | 1206 (3216 Metric) | https://www.digikey.com/en/products/detail/skyworks-inc/RMCF1206FT6M80/1751157&N=9gTCBzDdlEoBBCAGANArQwCwFoMAGkEaASAEARAF0BIA |
| 2 | 4.7kΩ | R10, R14 | RES 4.7K OHM 5% 1/4W 1206 | RMCF1206JT4K70 | RMCF1206JT4K70CT-ND | 0.01 | | 1206 (3216 Metric) | https://www.digikey.com/en/products/detail/skyworks-inc/rmcf1206jt4k70/1753847 |
| 1 | 10MΩ | R11 | 10 MOhms ±5% 0.25W, 1/4W Chip Resistor 1206 (3216 Metric) Au/RMCF1206JT10M0 | RMCF1206JT10M0CT-ND | | 0.017 | | 1206 (3216 Metric) | https://www.digikey.com/en/products/detail/skyworks-inc/R |