

| Ref | Value | Package | Price | SMD | THT | Notes | Digikey Part # |
|-------|-----------------|--|--------|-----|-----|--|---------------------------|
| C11 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C13 | 0.1u | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| C15 | 4.7u | Capacitor_SMD:C_0603_1608Metric | \$0.63 | 1 | 0 | 4.7µF ±10% 25V Ceramic Capacitor X5R 0603 (1608 Metric) | 1276-1900-1-ND |
| C16 | 100n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| C18 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C2 | 100n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| C20 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C21 | 100n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| C23 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C25 | 1n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 1000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 311-1080-1-ND |
| C26 | 100n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| C28 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C30 | 100n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| C32 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C34 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C35 | 100n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| C37 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C39 | 100n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| C4 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C40 | 1n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 1000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 311-1080-1-ND |
| C41 | 1u | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 1µF ±20% 16V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-6524-1-ND |
| C46 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C47 | 4.7u | Capacitor_SMD:C_0603_1608Metric | \$0.63 | 1 | 0 | 4.7µF ±10% 25V Ceramic Capacitor X5R 0603 (1608 Metric) | 1276-1900-1-ND |
| C49 | 2.2u | Capacitor_SMD:C_0603_1608Metric | \$0.24 | 1 | 0 | 2.2µF ±10% 16V Ceramic Capacitor X5R 0603 (1608 Metric) | 399-7886-1-ND |
| C50 | 1u | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 1µF ±20% 16V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-6524-1-ND |
| C51 | 2.2u | Capacitor_SMD:C_0603_1608Metric | \$0.24 | 1 | 0 | 2.2µF ±10% 16V Ceramic Capacitor X5R 0603 (1608 Metric) | 399-7886-1-ND |
| C52 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C53 | 100u | Capacitor_SMD:CP_Elec_6.3x7.7 | \$0.80 | 1 | 0 | 100µF 25V Aluminum Electrolytic Capacitors Radial, Can - SMD 2000 Hrs @ 85°C | PCE3898CT-ND |
| C55 | 10u | Capacitor_SMD:CP_Elec_4x5.4 | \$0.46 | 1 | 0 | 10µF 16V Aluminum Electrolytic Capacitors Radial, Can - SMD 2000 Hrs @ 85°C | 493-2100-1-ND |
| C57 | 4.7u | Capacitor_SMD:C_0603_1608Metric | \$0.63 | 1 | 0 | 4.7µF ±10% 25V Ceramic Capacitor X5R 0603 (1608 Metric) | 1276-1900-1-ND |
| C60 | 4.7u | Capacitor_SMD:C_0603_1608Metric | \$0.63 | 1 | 0 | 4.7µF ±10% 25V Ceramic Capacitor X5R 0603 (1608 Metric) | 1276-1900-1-ND |
| C61 | 100n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| C62 | 100n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| C63 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C64 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C65 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C67 | 100n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| C68 | 4.7u | Capacitor_SMD:C_0603_1608Metric | \$0.63 | 1 | 0 | 4.7µF ±10% 25V Ceramic Capacitor X5R 0603 (1608 Metric) | 1276-1900-1-ND |
| C70 | 100n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| C71 | 10n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 10000pF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 445-5662-1-ND |
| C9 | 100n | Capacitor_SMD:C_0603_1608Metric | \$0.17 | 1 | 0 | 0.1µF ±10% 50V Ceramic Capacitor X7R 0603 (1608 Metric) | 1276-CL10B104KB8NNNLCT-ND |
| D1 | LTST-C171TGKT | LED_SMD:LED_0805_2012Metric | \$0.44 | 1 | 0 | Green 571nm LED Indication - Discrete 2V 0603 (1608 Metric) | 160-1446-1-ND |
| D2 | LO R976-PS-1 | LED_SMD:LED_0805_2012Metric | \$0.47 | 1 | 0 | Orange 606nm LED Indication - Discrete 2V 0805 (2012 Metric) | 475-2488-1-ND |
| D3 | 10V | Diode_SMD:D_SMA | \$0.76 | 1 | 0 | Zener Diode 10V 1W ±5% Surface Mount SMA | SMAZ10-FDICT-ND |
| D6 | LTST-C171TGKT | LED_SMD:LED_0805_2012Metric | \$0.44 | 1 | 0 | Green 571nm LED Indication - Discrete 2V 0603 (1608 Metric) | 160-1446-1-ND |
| J1 | SWD Header | Connector_PinHeader_2.54mm:PinHeader_1x06_P2.54mm_Vertical | \$0.46 | 0 | 1 | Connector Header Through Hole 6 position 0.100" (2.54mm) | 609-3263-ND |
| J10 | USB_B_Mini | Connector_USB:USB_Micro-B_Wuerth_629105150521 | \$3.51 | 1 | 0 | USB - micro B USB 2.0 Receptacle Connector 5 Position Surface Mount, Right Angle; Through Hole | 732-5960-1-ND |
| J2 | Barrel_Jack | Connector_BarrelJack:BarrelJack_CUI_PJ-063AH_Horizontal | \$2.31 | 0 | 1 | Power Barrel Connector Jack 2.10mm ID (0.083"), 5.50mm OD (0.217") Through Hole, Right Angle | CP-063AH-ND |
| J3 | Thumb | Connector_PinHeader_2.54mm:PinHeader_1x03_P2.54mm_Horizontal | \$0.25 | 0 | 1 | Connector Header Through Hole, Right Angle 3 position 0.100" (2.54mm) | 609-6345-ND |
| J4 | Index | Connector_PinHeader_2.54mm:PinHeader_1x03_P2.54mm_Horizontal | \$0.25 | 0 | 1 | Connector Header Through Hole, Right Angle 3 position 0.100" (2.54mm) | 609-6345-ND |
| J5 | Middle | Connector_PinHeader_2.54mm:PinHeader_1x03_P2.54mm_Horizontal | \$0.25 | 0 | 1 | Connector Header Through Hole, Right Angle 3 position 0.100" (2.54mm) | 609-6345-ND |
| J6 | Ring | Connector_PinHeader_2.54mm:PinHeader_1x03_P2.54mm_Horizontal | \$0.25 | 0 | 1 | Connector Header Through Hole, Right Angle 3 position 0.100" (2.54mm) | 609-6345-ND |
| J7 | Pinky | Connector_PinHeader_2.54mm:PinHeader_1x03_P2.54mm_Horizontal | \$0.25 | 0 | 1 | Connector Header Through Hole, Right Angle 3 position 0.100" (2.54mm) | 609-6345-ND |
| J8 | Wrist | Connector_PinHeader_2.54mm:PinHeader_1x03_P2.54mm_Horizontal | \$0.25 | 0 | 1 | Connector Header Through Hole, Right Angle 3 position 0.100" (2.54mm) | 609-6345-ND |
| J9 | HC05 | Resonators:HC-05 | \$1.12 | 0 | 1 | 6 Position Header Connector Through Hole, Right Angle | S5481-ND |
| LOGO1 | SparkerLogo | Sparker:NASA_small | \$0.00 | 0 | 0 | Silkscreen | |
| LOGO2 | UoNLogo | Sparker:UoN | \$0.00 | 0 | 0 | Silkscreen | |
| MH1 | MountingHole | MountingHole:MountingHole_2.7mm_M2.5 | \$0.00 | 0 | 0 | Mounting Hole | |
| MH2 | MountingHole | MountingHole:MountingHole_2.7mm_M2.5 | \$0.00 | 0 | 0 | Mounting Hole | |
| MH3 | MountingHole | MountingHole:MountingHole_2.7mm_M2.5 | \$0.00 | 0 | 0 | Mounting Hole | |
| Q1 | SQ3425EV-T1_GE3 | Package_TO_SOT_SMD:TSOT-23-6 | \$1.07 | 1 | 0 | P-Channel 20V 7.4A (Tc) 5W (Tc) Surface Mount 6-TSOP | SQ3425EV-T1_GE3CT-ND |
| R1 | 100k | Resistor_SMD:R_0603_1608Metric | \$0.58 | 1 | 0 | 100 kOhms ±0.1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thin Film | P100KDBCT-ND |
| R10 | 50m | Resistor_SMD:R_0603_1608Metric | \$0.68 | 1 | 0 | 50 mOhms ±0.5% 0.2W, 1/5W Chip Resistor 0603 (1608 Metric) Current Sense Metal Film | 273-KDV06DR050ETCT-ND |
| R11 | 50m | Resistor_SMD:R_0603_1608Metric | \$0.68 | 1 | 0 | 50 mOhms ±0.5% 0.2W, 1/5W Chip Resistor 0603 (1608 Metric) Current Sense Metal Film | 273-KDV06DR050ETCT-ND |
| R12 | 500k | Resistor_SMD:R_0603_1608Metric | \$0.29 | 1 | 0 | 499 kOhms ±1% 0.333W, 1/3W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, Pulse Withstanding Thick Film | 541-499KSCT-ND |
| R13 | 100k | Resistor_SMD:R_0603_1608Metric | \$0.58 | 1 | 0 | 100 kOhms ±0.1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thin Film | P100KDBCT-ND |
| R14 | 500k | Resistor_SMD:R_0603_1608Metric | \$0.29 | 1 | 0 | 499 kOhms ±1% 0.333W, 1/3W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, Pulse Withstanding Thick Film | 541-499KSCT-ND |
| R15 | 100k | Resistor_SMD:R_0603_1608Metric | \$0.58 | 1 | 0 | 100 kOhms ±0.1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thin Film | P100KDBCT-ND |
| R16 | 500k | Resistor_SMD:R_0603_1608Metric | \$0.29 | 1 | 0 | 499 kOhms ±1% 0.333W, 1/3W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, Pulse Withstanding Thick Film | 541-499KSCT-ND |
| R17 | 100k | Resistor_SMD:R_0603_1608Metric | \$0.58 | 1 | 0 | 100 kOhms ±0.1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thin Film | P100KDBCT-ND |
| R18 | 500k | Resistor_SMD:R_0603_1608Metric | \$0.29 | 1 | 0 | 499 kOhms ±1% 0.333W, 1/3W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, Pulse Withstanding Thick Film | 541-499KSCT-ND |
| R19 | 100k | Resistor_SMD:R_0603_1608Metric | \$0.58 | 1 | 0 | 100 kOhms ±0.1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thin Film | P100KDBCT-ND |

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|-----|-------------------------|---------------------------------------|---------|---|---|--|------------------------|
| R2 | 100k | Resistor_SMD:R_0603_1608Metric | \$0.58 | 1 | 0 | 100 kOhms ±0.1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thin Film | P100KDBCT-ND |
| R20 | 500k | Resistor_SMD:R_0603_1608Metric | \$0.29 | 1 | 0 | 499 kOhms ±1% 0.333W, 1/3W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, Pulse Withstanding Thick Film | 541-499KSCT-ND |
| R21 | 100k | Resistor_SMD:R_0603_1608Metric | \$0.58 | 1 | 0 | 100 kOhms ±0.1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thin Film | P100KDBCT-ND |
| R22 | 500k | Resistor_SMD:R_0603_1608Metric | \$0.29 | 1 | 0 | 499 kOhms ±1% 0.333W, 1/3W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, Pulse Withstanding Thick Film | 541-499KSCT-ND |
| R23 | 100k | Resistor_SMD:R_0603_1608Metric | \$0.58 | 1 | 0 | 100 kOhms ±0.1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thin Film | P100KDBCT-ND |
| R24 | 500k | Resistor_SMD:R_0603_1608Metric | \$0.29 | 1 | 0 | 499 kOhms ±1% 0.333W, 1/3W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, Pulse Withstanding Thick Film | 541-499KSCT-ND |
| R25 | 100k | Resistor_SMD:R_0603_1608Metric | \$0.58 | 1 | 0 | 100 kOhms ±0.1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200 Thin Film | P100KDBCT-ND |
| R28 | 150 | Resistor_SMD:R_0603_1608Metric | \$0.17 | 1 | 0 | 150 Ohms ±5% 0.25W, 1/4W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, Pulse Withstanding Thick Film | RHM150DCT-ND |
| R3 | 6R | Resistor_SMD:R_0603_1608Metric | \$0.31 | 1 | 0 | 6.8 Ohms ±1% 0.1W, 1/10W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, Current Sense Thick Film | P6.8AJCT-ND |
| R4 | 68R | Resistor_SMD:R_0603_1608Metric | \$0.29 | 1 | 0 | 68 Ohms ±1% 0.333W, 1/3W Chip Resistor 0603 (1608 Metric) Automotive AEC-Q200, Pulse Withstanding Thick Film | 541-68.0SCT-ND |
| R5 | 33k | Resistor_SMD:R_0603_1608Metric | \$0.25 | 1 | 0 | 33 kOhms ±1% 0.25W, 1/4W Chip Resistor 0603 (1608 Metric) Pulse Withstanding Thick Film | A130434CT-ND |
| R6 | 50m | Resistor_SMD:R_0603_1608Metric | \$0.68 | 1 | 0 | 50 mOhms ±0.5% 0.2W, 1/5W Chip Resistor 0603 (1608 Metric) Current Sense Metal Film | 273-KDV06DR050ETCT-ND |
| R7 | 50m | Resistor_SMD:R_0603_1608Metric | \$0.68 | 1 | 0 | 50 mOhms ±0.5% 0.2W, 1/5W Chip Resistor 0603 (1608 Metric) Current Sense Metal Film | 273-KDV06DR050ETCT-ND |
| R8 | 50m | Resistor_SMD:R_0603_1608Metric | \$0.68 | 1 | 0 | 50 mOhms ±0.5% 0.2W, 1/5W Chip Resistor 0603 (1608 Metric) Current Sense Metal Film | 273-KDV06DR050ETCT-ND |
| R9 | 50m | Resistor_SMD:R_0603_1608Metric | \$0.68 | 1 | 0 | 50 mOhms ±0.5% 0.2W, 1/5W Chip Resistor 0603 (1608 Metric) Current Sense Metal Film | 273-KDV06DR050ETCT-ND |
| SW1 | SW_Push | Switches:1825910-6 | \$0.00 | 0 | 1 | Tactile Switch SPST-NO Top Actuated Through Hole | 450-1650-ND |
| SW2 | SW_DIP_x02 | Switches:DIP-Switch_01x02 | \$0.00 | 1 | 0 | Dip Switch SPST 2 Position Surface Mount Slide (Standard) Actuator 100mA 20VDC | CT3113CT-ND |
| U1 | LDL1117S33R | Package_TO_SOT_SMD:SOT-223-3_TabPin2 | \$0.73 | 1 | 0 | Linear Voltage Regulator IC 1 Output 1.2A SOT-223 | 497-17239-1-ND |
| U2 | STM32F407VGTx | Package_QFP:LQFP-100_14x14mm_P0.5mm | \$0.00 | 1 | 0 | ARM® Cortex®-M4 STM32F4 Microcontroller IC 32-Bit 168MHz 1MB (1M x 8) FLASH 100-LQFP (14x14) | 497-17437-1-ND |
| U3 | MCP1755T-5002E_SOT223-5 | Package_TO_SOT_SMD:SOT-223-6 | \$0.00 | 1 | 0 | Linear Voltage Regulator IC 1 Output 300mA SOT-223-5 | MCP1755T-5002E/DCCT-ND |
| U4 | FT232RL | Package_SO:SSOP-28_5.3x10.2mm_P0.65mm | \$7.63 | 1 | 0 | USB Bridge, USB to UART USB 2.0 UART Interface 28-SSOP | 768-1007-1-ND |
| Y1 | 8MHz | Resonators:CSTNE12M0GH5L000R0 | \$0.47 | 1 | 0 | 8MHz Ceramic Resonator Built in Capacitor 33pF ±0.2% 40 Ohms -40°C ~ 85°C Surface Mount | 490-17958-1-ND |
| | | | Total | | | | |
| | | | \$43.59 | | | | |