

| Reference | Value | Footprint | Qty |
|--|-------------------------|---|-----|
| C1,C2,C3,C4,C9,C10,C11,C15,C16,C18,C19,C20,C24,C25,C52 | 100nF | Capacitor_SMD:C_0603_1608Metric | 27 |
| C5,C6,C7,C12,C13,C14,C50,C52 | 220nF | Capacitor_SMD:C_0603_1608Metric | 8 |
| C8 | 470pF | Capacitor_SMD:C_0603_1608Metric | 1 |
| C17 | 47uF | Capacitor_SMD:CP_Elec_8x6.5 | 1 |
| C21 | 47uF | Capacitor_SMD:CP_Elec_5x5.3 | 1 |
| C22,C25,C29,C31,C33,C48 | 1uF | Capacitor_SMD:C_0603_1608Metric | 6 |
| C23,C26 | 12pF | Capacitor_SMD:C_0603_1608Metric | 2 |
| C27,C28 | 20pF | Capacitor_SMD:C_0603_1608Metric | 2 |
| C32,C34,C53 | 2.2uF | Capacitor_SMD:C_0603_1608Metric | 3 |
| C37 | 47uF | Capacitor_SMD:CP_Elec_5x5.4 | 1 |
| C43 | 10uF | Capacitor_SMD:C_0603_1608Metric | 1 |
| C54 | 22nF | Capacitor_SMD:C_0603_1608Metric | 1 |
| D1,D2,D3,D4,D7,D8,D9,D10,D31,D33,D35,D36 | LED | LED_SMD:LED_0603_1608Metric | 12 |
| D5,D6,D11,D12,D32,D34 | 1N4148WT | Diode_SMD:D_0603_1608Metric | 6 |
| D13,D16,D25,D26,D29,D30,D40 | 1N5819W | Diode_SMD:D_SOD-123 | 7 |
| D14 | SS16 | Diode_SMD:D_SMA | 1 |
| D15 | D_TVS | Diode_SMD:D_SMA | 1 |
| D17,D18,D19,D20,D21,D22,D23,D24,D27,D28,D37,D38,F1 | BAT54S | Package_TO_SOT_SMD:SOT-23 | 13 |
| F1 | 0.5A | Fuse:Fuse_1206_3216Metric | 1 |
| F2 | 0.5A | Fuse:Fuse_1206_3216Metric | 1 |
| J2 | STLink | Connector_PinHeader_2.54mm:PinHeader_1x04_P2.54mm_Vertical | 1 |
| J3 | USB_C_Receptacle_USB2.0 | Connector_USB:USB_C_Receptacle_GCT_USB4105-xx-A_16P_TopMnt_Horizontal | 1 |
| J5 | MSD-1-A | MSD_1_A:CUI MSD-1-A | 1 |
| J6,J7 | Conn_01x02 | Connector_PinHeader_2.54mm:PinHeader_1x02_P2.54mm_Vertical | 2 |
| J9 | Yamaha 48p | S48BZROK2AR | 1 |
| JP1 | Ignition Voltage | Jumper:SolderJumper-3_P1.3mm_Open_RoundedPad1.0x1.5mm | 1 |
| JP2,JP3 | HALL_VR | Jumper:SolderJumper-3_P1.3mm_Open_RoundedPad1.0x1.5mm | 2 |
| JP4,JP5 | PULLUP | Jumper:SolderJumper-2_P1.3mm_Open_RoundedPad1.0x1.5mm | 2 |
| LED1,LED2,LED3 | RED | LED_SMD:LED_0603_1608Metric | 3 |
| P1 | DRV8825 | shield_footprint:DRV8825 | 1 |
| P2 | Dual VR C | Package_DIP:DIP-8_W7.62mm_Socket | 1 |
| Q1,Q2,Q3,Q4,Q6,Q10,Q11,Q12 | BSP78/NCV8405A/NCV8406A | Package_TO_SOT_SMD:SOT-223-3_TabPin2 | 8 |
| Q5,Q7,Q8,Q9,Q13 | AO3400A | Package_TO_SOT_SMD:SOT-23 | 5 |
| Q14 | BC817 | Package_TO_SOT_SMD:SOT-23 | 1 |
| R1,R2,R15,R16,R43,R91,R93,R96 | 100k | Resistor_SMD:R_0603_1608Metric | 8 |
| R3,R4,R19,R20,R27,R33,R45,R59,R62,R63,R64,R84,R85,R91 | 10K | Resistor_SMD:R_0603_1608Metric | 19 |
| R5,R6,R17,R18,R29,R37,R41,R42,R47,R49,R92,R94,R97,R98 | 1k | Resistor_SMD:R_0603_1608Metric | 14 |
| R7,R8,R21,R22,R101,R102 | 0R | Resistor_SMD:R_0603_1608Metric | 6 |
| R9,R10,R23,R24,R95,R98 | 2.4k | Resistor_SMD:R_0603_1608Metric | 6 |
| R11,R12,R13,R25,R26,R28,R31,R32,R34,R38,R39,R40,R44 | 470R | Resistor_SMD:R_0603_1608Metric | 26 |
| R14,R67,R68,R69,R70,R75,R76,R77,R78 | 910R | Resistor_SMD:R_0603_1608Metric | 9 |
| R30 | 3.9k | Resistor_SMD:R_0603_1608Metric | 1 |
| R35,R36 | 2.49k | Resistor_SMD:R_0603_1608Metric | 2 |
| R46,R60,R61,R89,R112 | 100R | Resistor_SMD:R_0603_1608Metric | 5 |
| R50,R51,R57 | 220R | Resistor_SMD:R_0603_1608Metric | 3 |
| R52,R53,R54,R55,R105,R106 | 15R 2W | Resistor_SMD:R_2512_6332Metric | 6 |
| R56,R86,R108 | 2k7 | Resistor_SMD:R_0603_1608Metric | 3 |
| R58 | 1M | Resistor_SMD:R_0603_1608Metric | 1 |
| R79,R80 | 5.1K | Resistor_SMD:R_0603_1608Metric | 2 |
| R81,R82,R111 | 22R | Resistor_SMD:R_0603_1608Metric | 3 |
| R83 | 4.7K | Resistor_SMD:R_0603_1608Metric | 1 |
| R114,R116 | 68K | Resistor_SMD:R_0603_1608Metric | 2 |
| R115 | 5.1R | Resistor_SMD:R_0603_1608Metric | 1 |
| SW1,SW2 | SW_Push | Button_Switch_SMD:SW_SPST_CK_RS282G05A3 | 2 |
| TP1,TP2 | TestPoint | TestPoint:TestPoint_Pad_D1.0mm | 2 |
| U1 | STM32F407VGTx | Package_QFP:LQFP-100_14x14mm_P0.5mm | 1 |
| U2,U4,U10 | TC4424A | TC4424AVOA:SOIC127P599X175-8N | 3 |
| U3 | AMS1117-3.3 | Package_TO_SOT_SMD:SOT-223-3_TabPin2 | 1 |
| U5,U6 | MCP6004 | MCP6004T_I_SL:SOIC127P600X175-14N | 2 |
| U7 | MCP2551-I-SN | Package_SO:SOIC-8_3.9x4.9mm_P1.27mm | 1 |
| U8 | LM2940S-5.0 | Package_TO_SOT_SMD:TO-263-3_TabPin2 | 1 |
| U9 | USBLC6-2SC6 | Package_TO_SOT_SMD:SOT-23-6 | 1 |
| Y1 | 8Mhz | Crystal:Crystal_SMD_5032-2Pin_5.0x3.2mm | 1 |
| Y2 | 32.768KHz | Crystal:Crystal_SMD_3215-2Pin_3.2x1.5mm | 1 |