





O.1UF, 50V, 10%, X7R, CAP CER O.1UF 50V 10% C.1, C.2, C.3, C.4, C.5, C.6, CAPC1608N(0603*) 1608	9 1 1 4 1 1 10
Capacitor, Ceramic, SoV, +/-10%, 0805 C10 CAPC2012N(0805") Ceramic Capacitor, Ceramic, SoV, +/-10%, 1206 Capacitor, Ceramic, SoV, +/-10%, 0603 Capacitor, Ceramic, SoV, +/-10%, 0603 Capacitor, Ceramic, SoV, +/-10%, 0603 Capacitor, Ceramic, SoV, 10%, 0603 SMD, SGR C11 CAPC3216N(1206") Capacitor, Ceramic, SoV, 10%, 0603 SMD, SGR C12, C14, C21, C23 CAPC1608N(0603") Capacitor, Ceramic, SoV, 10%, 0603 SMD, SGR C13 CAPC1608N(0603") Capacitor, Ceramic, SoV, 10%, 0603 SMD, SGR C13 CAPC1608N(0603") CAPC1608N(0603") Capacitor, Ceramic, SoV, +/1%, 0603 SMD, C22, C28, C27, C28 Capacitor, Ceramic, SoV, +/1%, 0603 SMD, C24, C25 CAPC1608N(0603") Capacitor, Ceramic Capacitor, Ceramic, SoV, +/1%, 0603 SMD, C24, C25 CAPC1608N(0603") Capacitor, Ceramic Capacitor, Ceramic, SoV, +/1%, 0603 SMD, C24, C25 CAPC1608N(0603") Capacitor, Ceramic Capacitor, Ceramic, SoV, +/1%, 0603 SMD, C24, C25 CAPC1608N(0603") Capacitor, Ceramic Capacitor, Ceramic, SoV, +/1%, 0603 SMD, C24, C25 CAPC1608N(0603") Capacitor, Ceramic Capacitor, Ceramic Capacitor, Ceramic, SoV, +/1%, 0603 SMD, C24, C25 CAPC1608N(0603") Capacitor, Ceramic Capacitor, Ceramic, SoV, +/1%, 0603 SMD, C24, C25 CAPC1608N(0603") Capacitor, Ceramic Capacitor, Ceramic, SoV, +/1%, 0603 SMD, C24, C25 CAPC1608N(0603") Capacitor, Ceramic Capacitor, Ceramic, SoV, +/1%, 0603 SMD, C24, C25 Capacitor, Ceramic Capacitor, Ceramic, SoV, +/1%, 0603 SMD, C24, C25 Capacitor, Ceramic Capacitor, Ceramic, SoV, +/1%, 0603 SMD, C24, C25 Capacitor, C	1 1 4
4.7μF SMD, XSR C10 CAPC2012N(0805") Ceramic Capacitor, Ceramic, SOV, +/-10%, 1206 SMD, XSR C11 CAPC3216N(1206") Ceramic Capacitor, Ceramic, 25V, +/-10%, 0603 SMD, XSR C12, C14, C21, C23 CAPC1608N(0603") Ceramic Capacitor, Ceramic, SOV, 10%, 0603 SMD, XSR C13 CAPC1608N(0603") Ceramic Capacitor, Ceramic, SOV, 10%, 0603 SMD, XSR C13 CAPC1608N(0603") CAPC1608N(0603") SRR, Ceramic Capacitor, Ceramic, SOV, 10%, 0603 SMD, XSR C13 CAPC1608N(0603") CAP	1 4
Capacitor, Ceramic, SOV, +/-10%, 1206 SMD, XSR	1 4
10μF SMD, X5R Capacitor, Ceramic Capacitor, Ceramic 25V, +/-10%, 0603 SMD, V5R C12, C14, C21, C23 CAPC1608N(0603") Ceramic 1 1μF 25V 0603 SMD, Ceramic SOV, 10%, 0603 SMD, X5R C13 CAPC1608N(0603") Ceramic 2.2μF SSR Capacitor, Ceramic, 100V, +/-10%, 0603 C15, C16, C17, C18, 100V, +/-10%, 0603 C19, C20, C22, C26, C27, C28 CAPC1608N(0603") Ceramic 0.1μF SMD, X7R C24, C25 CAPC1608N(0603") Ceramic Capacitor, Ceramic, 50V, +/-1%, 0603 SMD, C24, C25 CAPC1608N(0603") Ceramic Capacitor, Ceramic, 50V, +/-1%, 0603 SMD, C24, C25 CAPC1608N(0603") Ceramic Capacitor, Ceramic C25, C27, C28 C24, C25 CAPC1608N(0603") Ceramic CAPC16	1
Capacitor, Ceramic, 25V, +/- 10%, 0603 SMD, X5R C12, C14, C21, C23 CAPC1608N(0603") Ceramic Capacitor, Ceramic, 50V, 10%, 0603 SMD, X5R C15, C16, C17, C18, 100V, +/- 10%, 0603 SMD, X5R C2pacitor, Ceramic C15, C16, C17, C18, 100V, +/- 10%, 0603 C22, C26, C27, C28 CAPC1608N(0603") X5R, Ceramic C15, C16, C17, C18, 100V, +/- 10%, 0603 C17, C20, C22, C26, C27, C28 CAPC1608N(0603") Ceramic C2pacitor, Ceramic C2pacitor, Ceramic C2pacitor, Ceramic C2pacitor, Ceramic S0V, +/- 1%, 0603 SMD, C24, C25 CAPC1608N(0603") Ceramic C2pacitor, C2	1
1μF SMD, XSR C12, C14, C21, C23 CAPC1608N(0603") Ceramic Capacitor, Ceramic, 50V, 10%, 0603 SMD, X5R CAPC1608N(0603") X5R, Ceramic CAPC1608N(0603")	1
Capacitor, Ceramic, 50V, 10%, 0603 SMD, X5R	1
2.2μF X5R C13 CAPC1608N(0603") X5R, Ceramic Capacitor, Ceramic, 100V, +/- 10%, 0603 C19, C20, C22, C26, C27, C28 0.1μF SMD, X7R Capacitor, Ceramic, 5MD, X7R Capacitor, Ceramic, 5V, +/-1%, 0603 SMD, C27, C28 Capacitor, Ceramic, 50V, +/-1%, 0603 SMD, C0G C24, C25 CAPC1608N(0603") Ceramic 1x6, Pads Pitch: 0.1" (2.54mm), Through hole CN1, CN5 Header, Male, 1X6 Header, Male, 1x6 1x4, Pads Pitch: 0.1" (2.54mm), Through hole CN2, CN3, CN4 Header, Male, 1X4 Header, Male, 1x4 DIODE ZENER 11V ZENER MM3Z3V0ST1G LED, 0805 (2012), Green, Clear D7 LED0805 Green, Clear 1x2 Pin Head JP1 2X1 Males Header BC846B,215 250mW Q1, Q2, Q3 SOT-23 BC846B,215 100k SMD R25, R30, R32 RESC1608N(0603") SMD 11kR, 1%, 1/10W, 0603 R2, R8, R14 RESC1608N(0603") SMD 10kR, 1%, 1/10W, 0603 R3, R6, R9, R15, R18, R19, R20, R22, R27, R31 RESC1608N(0603") SMD 16kR, 1%, 1/10W, 0603 R4, R5, R10, R11, R16, R17 RESC1608N(0603") SMD	
Capacitor, Ceramic, 100V, +/- 10%, 0603 C19, C20, C22, C26, C27, C28 CAPC1608N(0603") Ceramic Capacitor, Ceramic, 50V, +/- 1%, 0603 SMD, C06 C27, C28 CAPC1608N(0603") Ceramic Capacitor, Ceramic, 50V, +/- 1%, 0603 SMD, C06 C27, C28 CAPC1608N(0603") Ceramic 30pF 50V 0603 SMD, C24, C25 CAPC1608N(0603") Ceramic 1x6, Pads Pitch: 0.1" (2.54mm), Through hole CN1, CN5 Header, Male, 1X6 Header, Male, 1x6 1x4, Pads Pitch: 0.1" (2.54mm), Through hole CN2, CN3, CN4 Header, Male, 1X4 Header, Male, 1x4 DIODE ZENER 11V 200MW ±5% SOD323 D1, D3, D5 SC-90 ZENER MM3Z3V0ST1G LED, 0805 (2012), Green, Clear D7 LED0805 Green, Clear SCH, Clear D7 LED0805 Green, Clear SCH, Clear S	
0.1μF SMD, X7R C27, C28 CAPC1608N(0603") Ceramic Capacitor, Ceramic, 50V, +/-1%, 0603 SMD, C0G C24, C25 CAPC1608N(0603") Ceramic 1x6, Pads Pitch: 0.1" (2.54mm), Through hole CN1, CN5 Header, Male, 1X6 Header, Male, 1x6 1x4, Pads Pitch: 0.1" (2.54mm), Through hole CN2, CN3, CN4 Header, Male, 1X4 Header, Male, 1x4 ZENER MM3Z3V0ST1G DIODE ZENER 11V 200MW ±5% SOD323 D1, D3, D5 SC-90 ZENER MM3Z3V0ST1G Red Green, Clear D7 LED0805 Green, Clear 1X2 Pin Head JP1 2X1 Males Header 1x2 Male Header NPN 65V 100mA 250mW Q1, Q2, Q3 SOT-23 BC846B,215 100k, 1%, 1/10W, 0603 R1, R7, R12, R13, R21, R25, R30, R32 RESC1608N(0603") SMD 11kR, 1%, 1/10W, 0603 R2, R8, R14 RESC1608N(0603") SMD 10kR, 1%, 1/10W, 0603 R3, R6, R9, R15, R18, SMD R19, R20, R22, R27, R31 RESC1608N(0603") SMD 10kR, 1%, 1/10W, 0603 R4, R5, R10, R11, R16, RESC1608N(0603") SMD 16kR, 1%, 1/10W, 0603 R4, R5, R10, R11, R16, RESC1608N(0603") SMD 16kR, 1%, 1/10W, 0603 R4, R5, R10, R11, R16, RESC1608N(0603") SMD 16kR, 1%, 1/10W, 0603 R4, R5, R10, R11, R16, RESC1608N(0603") SMD	10
Capacitor, Ceramic, 50V, +/-1%, 0603 SMD, C0G C24, C25 CAPC1608N(0603") 30pF 50V 0603 SMD, Ceramic 30pF 50V 0603 SMD, Ceramic Ceramic 1x6, Pads Pitch: 0.1" (2.54mm), Through hole CN1, CN5 Header, Male, 1X6 Header, Male, 1x6 Header, Male, 1x4 Header, Male, 1x4 Header, Male, 1x4 Header, Male, 1x4 DIODE ZENER I1V 200MW ±5% SOD323 D1, D3, D5 SC-90 ZENER MM3Z3V0ST1G LED, 0805 (2012), Green, Clear D7 LED0805 Green, Clear LED, 0805 (2012), Green, Clear D7 LED0805 Green, Clear S07 LED0805 Green, Clear S08046B,215 250mW Q1, Q2, Q3 SOT-23 BC846B,215 100kR, 1%, 1/10W, 0603 R1, R7, R12, R13, R21, R25, R30, R32 RESC1608N(0603") SMD SMD R2, R8, R14 RESC1608N(0603") SMD SMD SMD R2, R8, R14 RESC1608N(0603") SMD SMD SMD SMD SMD R3, R6, R9, R15, R18, R18, SMD SMD R4, R5, R10, R11, R16, RESC1608N(0603") SMD	10
Sov. +/-1%, 0603 SMD, COG	
Header Male 1x6	
Header Male 1x6 (2.54mm), Through hole CN1, CN5 Header, Male, 1X6 Header, Male, 1x6	2
Header Male 1x4 (2.54mm), Through hole CN2, CN3, CN4 Header, Male, 1X4 Header, Male, 1x4 ZENER MM3Z3V0ST1G DIODE ZENER 11V ZENER MM3Z3V0ST1G 200MW ±5% SOD323 D1, D3, D5 SC-90 ZENER MM3Z3V0ST1G LED, 0805 (2012), Green, Clear D7 LED0805 Green, Clear SC-90 LED0805 (2012), Green, Clear D7 LED0805 Green, Clear SC-90 LED0805 Green, Clear SC-90 SC-90 SC-90 LED0805 (2012), Green, Clear SC-90	
Header Male 1x4 (2.54mm), Through hole CN2, CN3, CN4 Header, Male, 1x4 Header, Male, 1x4	2
DIODE ZENER 11V ZENER MM3Z3V0ST1G DIODE ZENER 11V 200MW ±5% SOD323 D1, D3, D5 SC-90 ZENER MM3Z3V0ST1G LED, 0805 (2012), Green, Clear D7 LED0805 LED, 0805 (2012), Green, Clear 1X2 Pin Head D91 2X1 Males Header 1x2 Male Header 1x2 Male Header NPN 65V 100mA 250mW Q1, Q2, Q3 SOT-23 BC846B,215 100kR, 1%, 1/10W, 0603 R1, R7, R12, R13, R21, R25, R30, R32 RESC1608N(0603") SMD 11kR, 1%, 1/10W, 0603 SMD R25, R8, R14 RESC1608N(0603") 10kR, 1%, 1/10W, 0603 R1, R7, R15, R18, R25, R30, R32 RESC1608N(0603") SMD 10kR, 1%, 1/10W, 0603 R1, R7, R15, R18, R19, R20, R22, R27, R31 RESC1608N(0603") SMD 16kR, 1%, 1/10W, 0603 SMD SMD	
ZENER MM3Z3V0ST1G ZENER MM3Z3V0ST1G LED, 0805 (2012), Green, Clear D7 LED0805 LED, 0805 (2012), Green, Clear D7 LED0805 LED, 0805 (2012), Green, Clear D7 LED0805 L	3
Red Green, Clear D7 LED0805 Green, Clear 1X2 Pin Head JP1 2X1 Males Header 1x2 Male Header BC846B,215 NPN 65V 100mA 250mW Q1, Q2, Q3 SOT-23 BC846B,215 100kR, 1%, 1/10W, 0603 SMD R1, R7, R12, R13, R21, R25, R30, R32 100kR, 1%, 1/10W, 0603 SMD 100kR, 1%, 1/10W, 0603 SMD SMD 11k SMD R2, R8, R14 RESC1608N(0603") SMD 10k SMD R3, R6, R9, R15, R18, R19, R20, R22, R27, R31 10kR, 1%, 1/10W, 0603 R19, R20, R22, R27, R31 RESC1608N(0603") SMD 16k SMD R4, R5, R10, R11, R16, R17 RESC1608N(0603") SMD	3
1X2 Pin Head JP1 2X1 Males Header 1x2 Male Header BC846B,215 NPN 65V 100mA 250mW Q1, Q2, Q3 SOT-23 BC846B,215 100kR, 1%, 1/10W, 0603 SMD R1, R7, R12, R13, R21, R25, R30, R32 RESC1608N(0603") 100kR, 1%, 1/10W, 0603 SMD SMD 11k SMD R2, R8, R14 RESC1608N(0603") SMD 10kR, 1%, 1/10W, 0603 SMD R3, R6, R9, R15, R18, R19, R20, R22, R27, R31 10kR, 1%, 1/10W, 0603 SMD 10kR, 1%, 1/10W, 0603 SMD 16k SMD R4, R5, R10, R11, R16, R17 RESC1608N(0603") SMD 16kR, 1%, 1/10W, 0603 SMD R4, R5, R10, R11, R16, R17 RESC1608N(0603") SMD	1
NPN 65V 100mA 250mW Q1, Q2, Q3 SOT-23 BC846B,215	1
100kR, 1%, 1/10W, 0603 R1, R7, R12, R13, R21, RESC1608N(0603") SMD 11kR, 1%, 1/10W, 0603 R25, R30, R32 RESC1608N(0603") SMD 11kR, 1%, 1/10W, 0603 R2, R8, R14 RESC1608N(0603") SMD 10kR, 1%, 1/10W, 0603 R3, R6, R9, R15, R18, R14 RESC1608N(0603") SMD 10kR, 1%, 1/10W, 0603 R3, R6, R9, R15, R18, R14 RESC1608N(0603") SMD 10kR, 1%, 1/10W, 0603 R19, R20, R22, R27, R31 RESC1608N(0603") SMD 16kR, 1%, 1/10W, 0603 R4, R5, R10, R11, R16, RESC1608N(0603") SMD 16kR, 1%, 1/10W, 0603 R4, R5, R10, R11, R16, RESC1608N(0603") SMD	
100k SMD R25, R30, R32 RESC1608N(0603") SMD 11kR, 1%, 1/10W, 0603 R2, R8, R14 RESC1608N(0603") SMD 10kR, 1%, 1/10W, 0603 R3, R6, R9, R15, R18, R14 RESC1608N(0603") SMD 10kR, 1%, 1/10W, 0603 R19, R20, R22, R27, R31 RESC1608N(0603") SMD 16kR, 1%, 1/10W, 0603 R4, R5, R10, R11, R16, RESC1608N(0603") SMD 16kR, 1%, 1/10W, 0603 R4, R5, R10, R11, R16, RESC1608N(0603") SMD	3
10kR, 1%, 1/10W, 0603 R3, R6, R9, R15, R18, SMD 10kR, 1%, 1/10W, 0603 R3, R6, R9, R15, R18, R19, R20, R22, R27, R31 RESC1608N(0603") 10kR, 1%, 1/10W, 0603 R19, R20, R22, R27, R31 RESC1608N(0603") 10kR, 1%, 1/10W, 0603 SMD	8
10k SMD R19, R20, R22, R27, R31 RESC1608N(0603") SMD 16kR, 1%, 1/10W, 0603 R4, R5, R10, R11, R16, SMD 16kR SMD R17 RESC1608N(0603") SMD 16kR, 1%, 1/10W, 0603 SMD	3
16k SMD R17 RESC1608N(0603") SMD	10
	6
3.32k, 1%, 1/10W, 0603, R23, R24 RESC1608N(0603") SMD 3.32k, 1%, 1/10W, 0603, SMD	2
715R, 1%, 1/10W, 0603, 715R, 1%, 1/10W, 0603,	
715R SMD R26 RESC1608N(0603") SMD	1
0R, 1%, 1/8W, 0805 0R SMD R28, R29 RESC2012N(0805") SMD	2
Solder Bridge Solder Bridge Solder Bridge	1
SPST SW1 4-SPST-NO 4 pin Tacitle Switch	1
Quad Op Amp TSV324 TSV324 U1, U2, U3 SOP-14 Quad Op Amp TSV324	3
CMOS Voltage CMOS Voltage Converter U4 8-SOIC TL7660	1
3.3V TO-252 Linear	
3.3V Lin Reg 30Vin U5 T0-252 Regulator LM75B (Temperature	1
Temperature Sensor U6 SOIC-8 Sensor)	1
STM32F091CCT6 LQFP48 Chip U7 STM-48LQFP STM32F091CCT6	1
Full duplex Intersil Full duplex Intersil UART - RS485 U8 SOIC-SN8_M UART - RS485	
4MHz	1
11011100	1