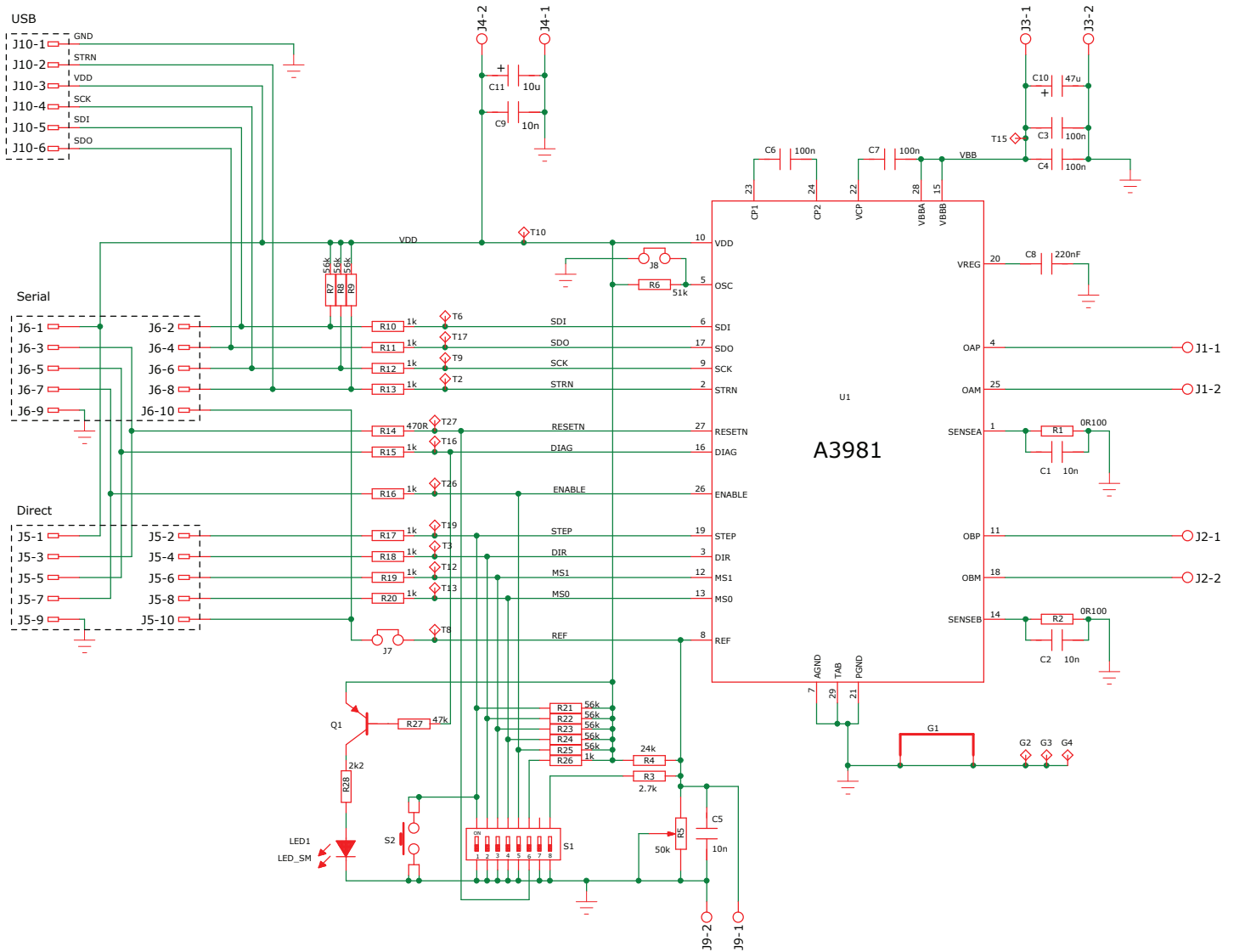


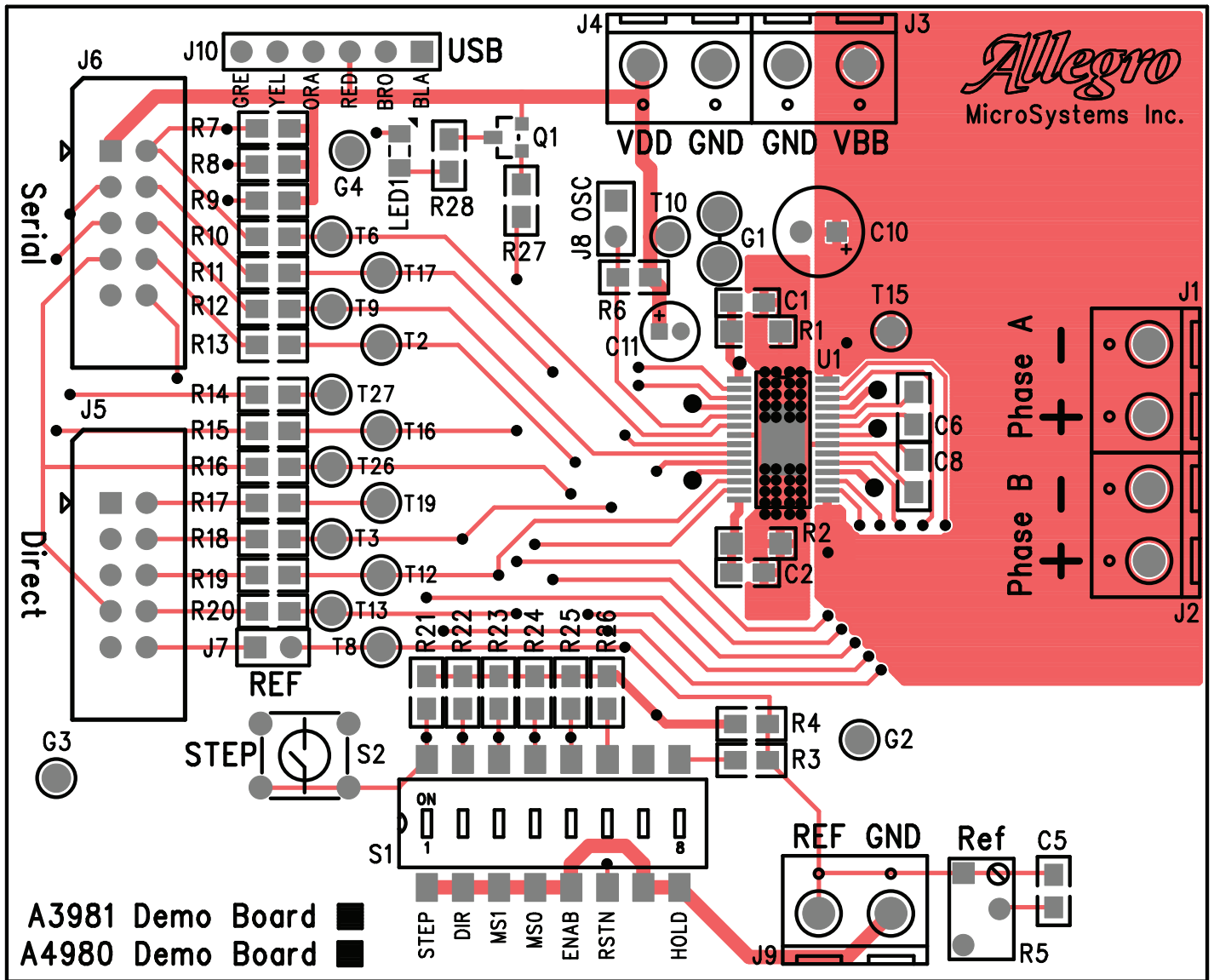
## Demo Board Schematic/Layout

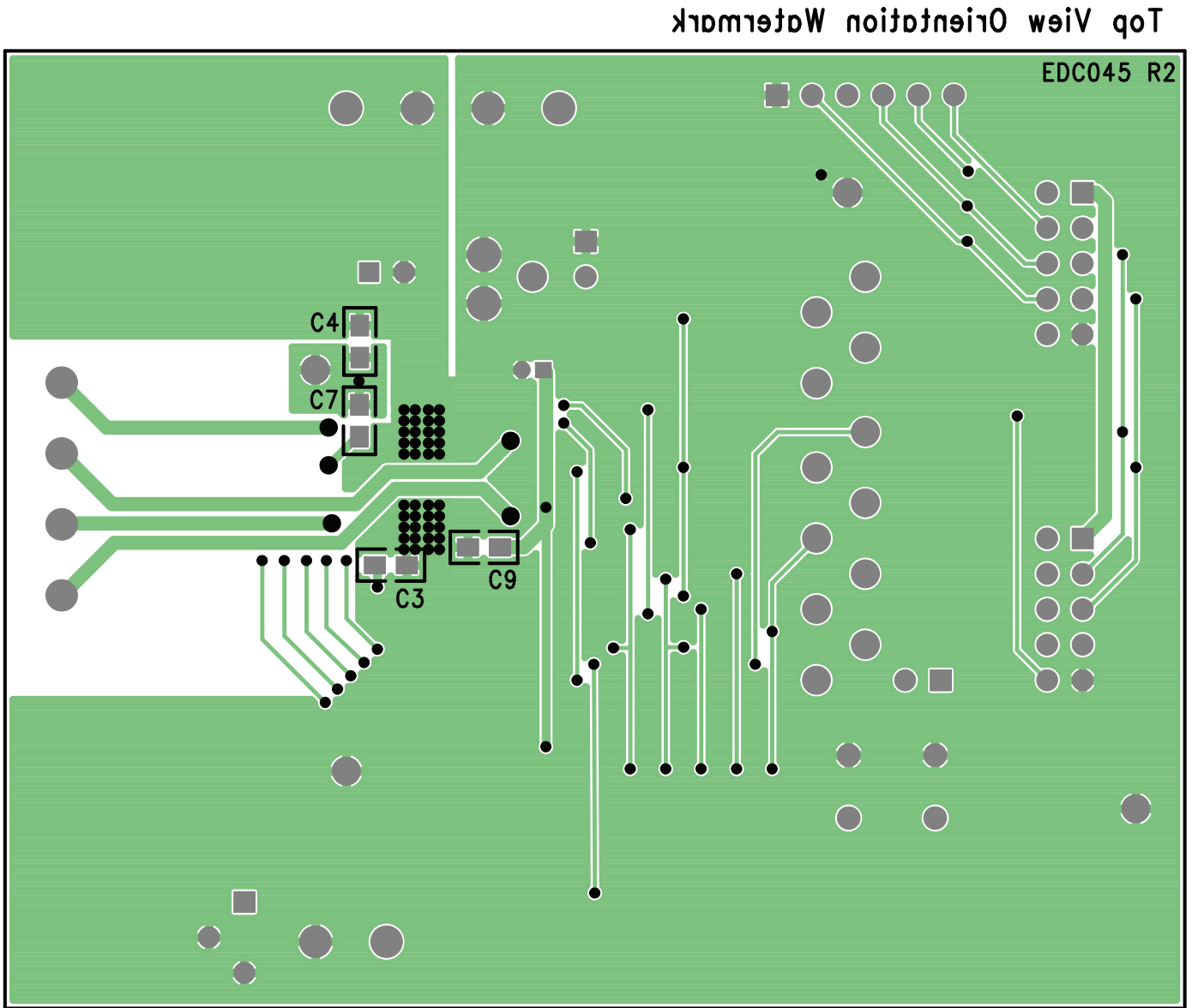
### SCHEMATIC



LAYOUT

Top View Orientation Watermark






## BILL OF MATERIALS

| A3981 Demonstration Board Rev2 Component List (EDC045R2) |           |                              |   | All parts RoHS Compliant |
|--|-----------|------------------------------|---|--------------------------|
| Part   | Value     | Package                      | Description                                 | RS Part                  |
| C1   | 10nF      | 0805                         | Ceramic Chip Cap, >=16V, X7R                | 298-9309                 |
| C2   | 10nF      | 0805                         | Ceramic Chip Cap, >=16V, X7R                | 298-9309                 |
| C3   | Btm 100nF | 0805                         | Ceramic Chip Cap, >=50V, X7R                | 264-4416                 |
| C4   | Btm 100nF | 0805                         | Ceramic Chip Cap, >=50V, X7R                | 264-4416                 |
| C5   | 10nF      | 0805                         | Ceramic Chip Cap, >=16V, X7R                | 298-9309                 |
| C6   | 100nF     | 0805                         | Ceramic Chip Cap, >=50V, X7R                | 264-4416                 |
| C7   | Btm 100nF | 0805                         | Ceramic Chip Cap, >=50V, X7R                | 264-4416                 |
| C8   | 220nF     | 0805                         | Ceramic Chip Cap, >=25V, X7R                | 390-996                  |
| C9   | Btm 10nF  | 0805                         | Ceramic Chip Cap, >=16V, X7R                | 298-9309                 |
| C10  | 47uF      | 2.5mm Pitch, 6.3mm Dia       | Electrolytic Alu Cap, >=50V, 85deg          | 365-4278                 |
| C11  | 10uF      | 1.5mm Pitch, 4mm Dia         | Electrolytic Alu Cap, >=16V, 85deg          | 116-789                  |
| G1   | \         | 1.2mm Hole Pairs, 12mm Pitch | Ground Bar, 20swg Tinned Copper Wire        | 355-063                  |
| G2   | \         | 1mm PCB Hole                 | Test Terminal, Black                        | 262-2179                 |
| G3   | \         | 1mm PCB Hole                 | Test Terminal, Black                        | 262-2179                 |
| G4   | \         | 1mm PCB Hole                 | Test Terminal, Black                        | 262-2179                 |
| J1   | \         | 2x1.2mm, 200mils Pitch       | 2-Way Screw Terminal                        | 425-8720                 |
| J2   | \         | 2x1.2mm, 200mils Pitch       | 2-Way Screw Terminal                        | 425-8720                 |
| J3   | \         | 2x1.2mm, 200mils Pitch       | 2-Way Screw Terminal                        | 425-8720                 |
| J4   | \         | 2x1.2mm, 200mils Pitch       | 2-Way Screw Terminal                        | 425-8720                 |
| J5   | \         | 2x5 pins, 100mils Pitch      | 10pin Double Row IDC Ribbon Header          | 542-8784                 |
| J6   | \         | 2x5 pins, 100mils Pitch      | 10pin Double Row IDC Ribbon Header          | 542-8784                 |
| J7   | \         | 2x1mm Holes, 2.54mm Pitch    | Jumper Header, 2-Way                        | 251-8086                 |
| J8   | \         | 2x1mm Holes, 2.54mm Pitch    | Jumper Header, 2-Way                        | 251-8086                 |
| J9   | \         | 2x1.2mm, 200mils Pitch       | 2-Way Screw Terminal                        | 425-8720                 |
| J10  | \         | SIL : 0.1" pitch x6          | 6-Way SIL Header                            | 360-6308                 |
| (J10 alternative)  | \         | SIL : 0.1" pitch x72         | 36-Way SIL Header (use for multiple boards) | 251-8632                 |
| LED1   | LS M676   | SMT 2pin, 2.3x1.3mm Body     | TopLED, Red, 20mA                           | 654-5919                 |
| PCB  | \         | 1.6mm FR4, 2 layer, 2oz Cu   | A3981 Demo Rev2 PCB (EDC045R2)              | \                        |
| Q1   | BC857B    | SOT23                        | PNP Transistor, 0.1A, 45V                   | 288-581A                 |
| R1   | 0R100     | 1206                         | SM chip resistor                            | Farnell 1779445          |
| R2   | 0R100     | 1206                         | SM chip resistor                            | Farnell 1779445          |
| R3   | 2k7       | 0805                         | SM chip resistor                            | 223-0483                 |
| R4   | 24k       | 0805                         | SM chip resistor                            | Farnell 933-2901         |
| R6   | 51k       | 0805                         | SM chip resistor                            | Farnell 933-4653         |
| R7   | 56k       | 0805                         | SM chip resistor                            | 618-1571                 |
| R8   | 56k       | 0805                         | SM chip resistor                            | 618-1571                 |
| R9   | 56k       | 0805                         | SM chip resistor                            | 618-1571                 |
| R10  | 1k        | 0805                         | SM chip resistor                            | 618-3583                 |
| R11  | 1k        | 0805                         | SM chip resistor                            | 618-3583                 |
| R12  | 1k        | 0805                         | SM chip resistor                            | 618-3583                 |
| R13  | 1k        | 0805                         | SM chip resistor                            | 618-3583                 |
| R14  | 470R      | 0805                         | SM chip resistor                            | 223-0376                 |
| R15  | 1k        | 0805                         | SM chip resistor                            | 618-3583                 |
| R16  | 1k        | 0805                         | SM chip resistor                            | 618-3583                 |
| R17  | 1k        | 0805                         | SM chip resistor                            | 618-3583                 |
| R18  | 1k        | 0805                         | SM chip resistor                            | 618-3583                 |
| R19  | 1k        | 0805                         | SM chip resistor                            | 618-3583                 |
| R20  | 1k        | 0805                         | SM chip resistor                            | 618-3583                 |
| R21  | 56k       | 0805                         | SM chip resistor                            | 618-1571                 |
| R22  | 56k       | 0805                         | SM chip resistor                            | 618-1571                 |
| R23  | 56k       | 0805                         | SM chip resistor                            | 618-1571                 |
| R24  | 56k       | 0805                         | SM chip resistor                            | 618-1571                 |
| R25  | 56k       | 0805                         | SM chip resistor                            | 618-1571                 |
| R26  | 1k        | 0805                         | SM chip resistor                            | 618-3583                 |
| R27  | 47k       | 0805                         | SM chip resistor                            | 223-0641                 |
| R28  | 2k2       | 0805                         | SM chip resistor                            | 223-0477                 |
| R5   | 50k       | 3pin, 6.5x4.5mm Body         | Multiturn Trim Resistor, Bourns 3266W       | 521-9293                 |
| S1   | \         | 16pin, 0.254mm Pitch         | SM Switch, DIP, 8-Way                       | 692-7093                 |
| S2   | \         | 6x6mm Body                   | Switch, SPST, Momentary, Button             | 378-6410                 |
| T2   | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T3   | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T6   | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T8   | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T9   | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T10  | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T12  | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T13  | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T15  | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T16  | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T17  | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T19  | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T26  | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| T27  | \         | 1mm PCB Hole                 | Test Terminal, Red                          | 262-2185                 |
| U1   | A3981     | eTSSOP28                     | Allegro A3981                               | \                        |
| \  | \         | \                            | Jumper Shorting Link (Red, x2 Per Board)    | 251-8531                 |
| \  | \         | \                            | Rubber Feet (x4 Per Board)                  | 248-451                  |

### BOARD BUILD NOTES:-

- (1) Jumper shorting link = Fit x2 per board.
- (2) Note: Ground bar = 20swg Tinned Copper Wire, Approx 10mm Height, Square Corner Formed:- 
- (3) Rubber Feet = Fit x4 per board, one in each corner (as near as possible).
- (4) Note: A3981 IC's to be supplied by Allegro in tubes.
- (5) Note: Final 'active' stage = board wash (no flux present on finished boards).
- (6) Note: No manufacturer stick-on label's on topside of pcb, bottom side only.
- (7) Mark a dot on btm left silkscreen square (green permanent pen) to show A3981 IC is fitted (final stage after board wash/QC).

**Revision History**

| Number | Date              | Description     |
|--------|-------------------|-----------------|
| –      | September 9, 2016 | Initial release |

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