

Checklist for Schematics

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- Visual Design
 - Power supplies use supply symbols, not wires
 - Positive supplies point up, and negative supplies/ground point down
 - Optional: Groups of nets above about ≥ 4 nets collected into buses
 - Component symbols are symbols, not the physical package's order and arrangement
 - All nets descriptively named
 - Net "stubs" use an off-sheet type of label ("XREF" in EAGLE)
 - Blocks in your schematic clearly labeled
 - There's a frame around the schematic
 - It's clear where your power is coming from
 - It's clear what your power input requirements are
 - Data flow (inputs, outputs) are clear and labeled
- Part values
 - Special case capacitors marked with power and tolerance
 - Capacitors have the appropriate voltage
 - Power dissipation checked in all of your resistors
 - Special case resistors marked with power and tolerance
 - Check that your specialized parts are in stock at a distributor
- Electrical Rule checks
 - All of your components have values (including "DNP" or "NP" for "No Place")
 - All inputs have the correct voltage levels
 - All outputs have the correct load impedance
 - MOSFETs oriented correctly, including the body diode
 - **No unapproved errors OR warnings in the ERC**
 - Double check your approved errors, looking for anomalies and possible errors.
- Best Practices
 - **Your schematic is peer reviewed by at least one person not involved in the design.**
 - Small, low ESR (e.g., ceramic) bypass capacitors on ALL IC supplies
 - Large bypass (e.g., electrolytic) capacitors on your board at the power connector and regulator IC.
 - Design for Test
 - Place test points on critical signals
 - Add debugging hardware (e.g., test switches, LEDs, scope probe points, etc)
 - Design for Fail
 - Group components in separable modular blocks, use zero ohm resistors as jumpers
 - Design for Manufacturing
 - Place programming connectors and DOUBLE CHECK their pinouts
 - Double check your part numbers and the actual package names and dimensions.