

MT-0002: ADCO CIRCUITS DOCUMENTATION GUIDELINE

1.0 SCOPE

The scope of this document is to furnish guidelines for providing documentation to ADCO Circuits for the purpose of quoting and manufacturing.

2.0 REFERENCE DOCUMENTS

IPC-D-326 (www.ipc.org)

3.0 MANUFACTURE: COMPLETE LISTING OF DOCUMENTATION REQUIRED.

The following is a list of the most common documentation required by ADCO Circuits for the manufacture of conforming product. Some may not be applicable to your exact requirements.

3.1 Bill of Materials in Excel Format listing preferably in the order listed below:

- Your component part number
- Description
- Manufacturer
- Manufacturer part number **OR** drawing number if a custom fabricated component (bare board, wire harness, enclosure, heat-sink, labels, etc.)
- Reference Designator(s)
- Component package (0402, QFP, etc) or indicate SMT or TH
- Notes such as “to be programmed”, “press-fit”, “registered pricing at Avnet”, ...

3.2 Bare Board Specifications

- IPC I, II, III.
- Leaded or Lead Free.
- Dimensions including thickness and shape.
- Number of Layers.
- Laminate Specifications (Rigid, Reference IPC 4101 for specific call out)
- Copper Weight, indicate whether beginning or finish weight.
- Hole Chart including size and plating specification.
- Surface plating specification (HASL, ENIG, ...).
- Solder Mask specification.

3.3 Assembly Documentation

- ODB ++ files - This is the standard file ADCO uses to process assemblies.
- Gerber files – Must have if ADCO is ordering bare PCB’s. Also must have if an ODB++ file is not provided.
- Pick and Place files – If ODB++ files are provided this is not needed. Otherwsie, must have for any assemblies with surface mount parts being placed. Preferred in text or Excel format.
- Programmed device information
- Assembly drawing(s) in PDF – The following information, if applicable, needs to be be listed on the assembly drawing.
 - Workmanship Standard & Acceptability criteria
 - Conformal coating / potting requirements with clearly marked keep-out areas
 - Torque requirements
 - Method of identification, serialization, or labeling

- Lead protrusion specification (if required)
- Component height exceptions
- Listing of jigs or fixtures required for assembly
- Wire routing and adhesion requirements

3.4 Test

- Test procedure and test data requirements
- Test equipment list with calibration & maintenance requirements
- Schematics
- If ADCO is developing functional test equipment: theory of operation, functions to be tested, & input/output requirements and specifications
- If ADCO is developing in-circuit test: BOM, schematic, CAD files in ASCII format,
- If ADCO is developing flying-probe test: BOM, schematic, CAD files in GenCad or equivalent format
- Known good assembly (golden board)
- Safety requirements

3.5 Programmed Device Information

- Software Requirements and Specifications
- Hardware requirements and Specifications
- Device Programmer Specification
- Checksums
- Labeling or identification requirements
- JEDEC Files for PLD's (With Vectors)
- Hex files for eproms

3.6 Packaging or Shipping Requirements

- Packaging specification & drawings
- Special shipping requirements

3.7 Quality System and Documentation Requirements

- ITAR / EAR requirement
- Finished goods certificates of conformance requirements
- FAI (generic or AS9100) or PPAP
- Quality codes
- Special process vendors
- Source Inspection
- UL / Intertec / FDA requirements