

IPC Designer Certification CID Outline

Day 1

INTRODUCTION TO DESIGNER CERTIFICATION

1. DESIGN CONSIDERATIONS

- 1.1 Interrelated Considerations for Design
- 1.2 Placement and Routing Techniques
- 1.3 Electrical Characteristics
- 1.4 Copper Clad Laminates
- 1.5 Holes in Printed Boards
- 1.6 Drilling and Hole Locations
- 1.7 Features Formed in Copper

2. THERMAL, RELIABILITY, AND TESTING ISSUES

- 2.1 Thermal Management of Boards
- 2.2 Thermal Management of Assemblies
- 2.3 Reliability
- 2.4 Testing

Mini-Quiz and Discussion Lunch

3. PHYSICAL BOARD PRINCIPLES

- 3.1 Printed Board and Assembly Viewing Principles
- 3.2 Introduction to Datum Dimensioning
- 3.3 Grid Systems
- 3.4 Tooling Holes and Fiducials
- 3.5 Board and Assembly Panelization
- 3.6 Panel Separation Methods

4. COMPONENT TYPES

- 4.1 Components - Overview
- 4.2 Edge Board Connectors
- 4.3 Stiffeners
- 4.4 Bus Bars

Day 2

4. COMPONENT TYPES (Continued from Day 1)

- 4.5 Sockets
- 4.6 Jumpers and Terminals
- 4.7 MELFs
- 4.8 Eyelets

5. COMPONENT AND ASSEMBLY ISSUES

- 5.1 Designing for Assembly
- 5.2 Mounting Through Hole Components
- 5.3 Mounting Surface Mount Components
- 5.4 Component Modifications
- 5.5 Component Insertion and Attachment Techniques
- 5.6 Solder Processes
- 5.7 Clinching Leads

Mini-Quiz and Discussion Lunch

6. BOARD SURFACE TREATMENTS

- 6.1 Solder Mask
- 6.2 Conformal Coatings
- 6.3 Tarnish Protective Coatings
- 6.4 Solder Protective Finishes
- 6.5 Legend

7. DOCUMENTATION AND DIMENSIONING

- 7.1 Documentation and Classifications
- 7.2 Schematic and Logic Diagrams
- 7.3 Master Drawings
- 7.4 Assembly Drawings and BOMs
- 7.5 Photo Tools
- 7.6 Dimensioning and Tolerancing

Day 3

*CERTIFICATION TESTING BEGINS
INDIVIDUAL REVIEW OF EXAMINATION WITH INSTRUCTOR/DISCUSSION/FEEDBACK
ADJOURNMENT*