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## **Introduction to IC Digital Testing (including FPGA's)**

### **Course Overview**

This course provides a solid introduction to the basic concepts required for digital testing of semiconductor devices. It is aimed at junior engineers in test and product engineering but will also be valuable to engineers from related disciplines wishing to gain a better understanding of the test process and current challenges.

### **Topics Covered**

Test Goals; Test Parameters; Test Program Flow; DC, Functional and Speed Testing; Characterisation; Tester Platforms; Test Program Development; DFT; Documentation & Rev Control; FPGA Test Considerations (BIST, Test Coverage, Test Time Reduction etc).

### **Who Should Attend**

Product/Test Engineers  
Product Development Engineers  
Product Quality Engineers  
New Engineering Grads (rotation program, etc)

### **Course Duration**

2 days

## **FPGA Outline (“Virtex” Series illustrations throughout):**

Test Goals  
Test Platforms  
Test Setup & Power Supplies  
Dedicated Pins, Shorted Pin Groups  
Hardware  
Wafer Sort & Final Test  
Some Typical Test Flows  
Gross Functional Testing (One's/Zero's Readback, Readcapture, BRAM)  
DC & I/O Tests  
Basic Functional Testing (Features vs. Interconnect Testing, Self-Test, LUTRAM, Test Modes, TBUF, Test Generation Process, Test Patterns)  
Functional Test Coverage  
Characterisation  
AC Test  
Test Time Reduction Strategies  
Worked Examples