

EXHIBIT 1061

Digital Design Principles and Practices

Second Edition

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The basic digital design methods that you'll study throughout this book apply very well to the functional design of ASICs. However, there are additional opportunities, constraints, and steps in ASIC design, which usually depend on the particular ASIC vendor and design environment.

1.8 PRINTED-CIRCUIT BOARDS

An IC is normally mounted on a *printed-circuit board (PCB)* [sometimes called a *printed-wiring board (PWB)*] that connects it to other ICs in a system. The multilayer PCBs used in typical digital systems have copper wiring etched on multiple, thin layers of fiberglass that are laminated into a single board typically about 1/16 inch thick. Figure 1-8 shows a PCB with many IC packages and other components.

Individual wire connections, or *PCB traces* are usually quite narrow, 10 to 25 mils in typical PCBs. (A *mil* is one-thousandth of an inch.) In *fine-line* PCB technology, the traces are extremely narrow, as little as 5 mils wide with 5-mil spacing between adjacent traces. Thus, up to 100 connections may be routed in

printed-circuit board (PCB)
printed-wiring board (PWB)

PCB traces
mil
fine-line

