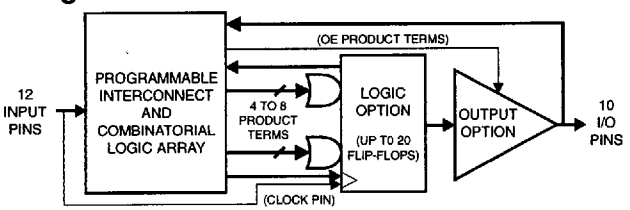
Features

- 3-Volt Operation - Low System Power Requirement
- Wide V_{CC} Range
  - V_{CC} = 3.0 V to 5.25 V (Commercial)
  - V_{CC} = 3.0 V to 5.5 V (Industrial)
- Advanced, High Speed Programmable Logic Device
  - 10 ns Maximum Pin-To-Pin Delay
  - Enhanced Logic Flexibility
  - Architecture Identical to ATV750B/BL
  - Backward Compatible with ATV750/L Software and Hardware
- Low Power, Low Voltage ATLV750BL - 0.5 mA Standby (Typical) at 3.6 V
- New Flip-Flop Features
  - D- or T-Type
  - Product Term or Direct Input Pin Clocking
- Highest Density Programmable Logic Available in a 24-Pin Package
- Increased Logic Flexibility
  - 42 Array Inputs, 20 Sum Terms and 20 Flip-Flops
- Enhanced Output Logic Flexibility
  - All 20 Flip-Flops Feed Back Internally
  - 10 Flip-Flops are Also Available as Outputs
- Reprogrammable - 100% Tested for Programming
- Full Commercial and Industrial Temperature Ranges
- 24-Pin, 0.300" DIP, 24-Lead SOIC, and 28-Lead Surface Mount Packages

High Speed UV Erasable Programmable Logic Device

Advance Information

Logic Diagram



Description

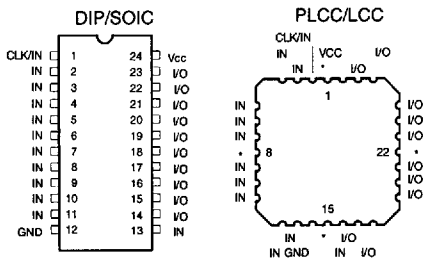
The ATLV750Bs are twice as powerful as most other 24-pin programmable logic devices. Increased product terms, sum terms, flip-flops and output logic configurations translate into more usable gates. High speed logic and uniform, predictable delays guarantee fast in-system performance.

Each of the ATLV750B's 22 logic pins can be used as an input. Ten of these can be used as inputs, outputs or bi-directional I/O pins. Each flip-flop is individually configurable as either

(continued)

Pin Configurations

Pin Name	Function
CLK	Clock
IN	Logic Inputs
I/O	Bidirectional Buffers
*	No Internal Connection
Vcc	+5 V Supply



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Description (Continued)

D- or T-type. Each flip-flop output is fed back into the array independently. This allows burying of all the sum terms and flip-flops.

There are 171 total product terms available. A variable format is used to assign between four to eight product terms per sum term. There are two sum terms per output, providing added flexibility. Much more logic can be replaced by this device than by any other 24-pin PLD. With 20 sum terms and flip-flops, complex state machines are easily implemented with logic to spare.

Product terms provide individual clocks and asynchronous resets for each flip-flop. Each flip-flop may also be individually configured to have direct input pin controlled clocking. Each output has its own enable product term. One product term provides a common synchronous preset for all flip-flops. Register preload functions are provided to simplify testing. All registers automatically reset upon power up.

The ATLV750B and ATLV750BL are low voltage and low power devices with speeds as fast as 10 ns. Architecturally identical to the ATV750B/BL, the ATLV750B/BL satisfies most low voltage, low power portable design requirements. The ATLV750BL provides the optimum low power PLD solution, with full CMOS output levels. Standby power dissipation is as low as 15 mW at 3.6-V operation. This device significantly reduces total system power, thereby allowing battery-powered operation.

D.C. and A.C. Operating Conditions

	Commercial -10, -15	Industrial -10, -15
Operating Temperature (Case)	0°C - 70°C	-40°C - 85°C
V_{CC} Power Supply	3.0 V to 5.25 V	3.0 V to 5.5 V