

# Programmable logic devices (pld)



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PLDs are standard ICs, available in standard configurations. They are sold in high volume to many different customers. PLDs may be configured or programmed to create a part customized to a specific application.

They have a single large block of programmable interconnect and consist of a matrix of logic macrocells that usually consists of programmable array logic followed by a flip-flop or latch. Types of PLDs are PROM, EPROM, PAL and PLA. PROM uses metal fuse that can be blown permanently.

EPROM uses programmable MOS transistors whose characteristics are altering by applying a high voltage. PAL or Programmable Array Logic consists of a programmable AND logic array or AND plane, and fixed OR plane.

PLA or Programmable Logic Array has a programmable AND plane followed by programmable OR plane. Based on type of programming PLDs may be classified as Erasable PLD (EPLD) and Mask-programmed PLD. It is characterized by customized mask layer and logic cells (Smith, 1997: 14). (Smith, 1997) Advantages Fast design turnaround. Disadvantages Mass programming is not possible.