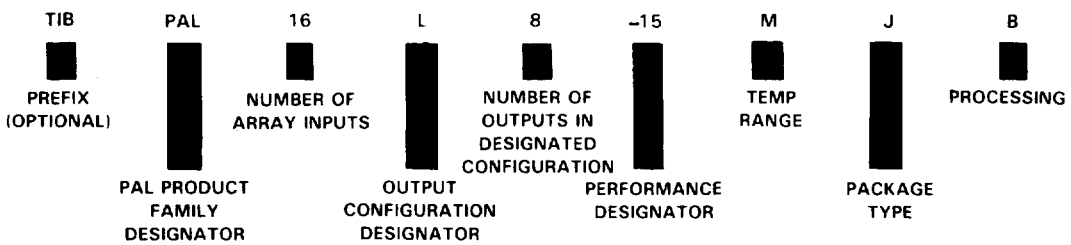
PROGRAMMABLE LOGIC

Introduction

Texas Instruments Military Products is committed to meeting your system requirement needs for programmable logic. TI offers a variety of programmable logic devices to help bridge the gap between SSI/MSI and LSI/Gate Arrays in military designs. With a single PAL® IC from TI, as many as eight to ten logic circuits may be replaced. The added advantages of user flexibility make PAL® devices an appropriate choice for many applications where space constraints and speed are critical.

If power requirements are tight, or if exceptional speed is vital in the selection of logic, TI's IMPACT™ PAL® ICs can make the difference—whether retrofitting an existing design or in a new design. IMPACT™ PAL® ICs dissipate less power for the same speed performance achieved in standard PAL® ICs.

PROGRAMMABLE LOGIC NOMENCLATURE



PREFIX

TIB = IMPACT

OUTPUT CONFIGURATION DESIGNATOR

L = Active Low
R = Registered
V = Variable (programmable)

PERFORMANCE DESIGNATOR

-10 = 10 ns Prop Delay
-12 = 12 ns Prop Delay
-15 = 15 ns Prop Delay
-20 = 20 ns Prop Delay
-25 = 25 ns Prop Delay
-30 = 30 ns Prop Delay
A = Standard power, fast speed
A-2 = Half power, fast speed

TEMPERATURE RANGE

M = -55°C TO 125°C

PACKAGE TYPE

J, JT = CDIP
FK = LCC
W = Flatpack

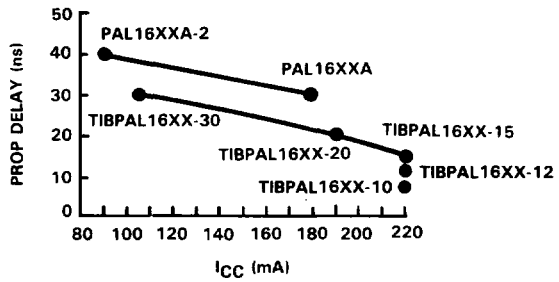
PROCESSING

BLANK = Standard commercial Processing
B = MIL-STD-883C, Class B

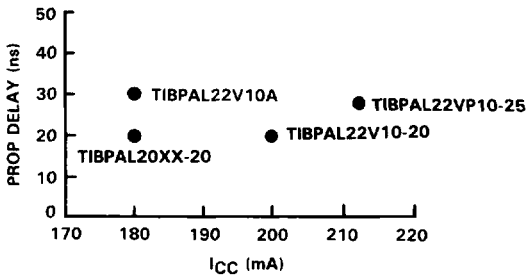
PAL is a registered trademark of Monolithic Memories Inc.

Programmable Logic Summary

20-Pin PALs



24-Pin PALs



DEVICE	MAX I_{CC}	MAX t_{pd}
16XXA	180 mA	30 ns
16XXA-2	90 mA	40 ns
16XX-10	220 mA	10 ns
16XX-12	220 mA	12 ns
16XX-15	220 mA	15 ns
16XX-20	190 mA	20 ns
16XX-30	105 mA	30 ns

XX = L8, R8, R6, or R4

DEVICE	MAX I_{CC}	MAX t_{pd}
TIBPAL22V10A	180 mA	30 ns
TIBPAL22V10-20	200 mA	20 ns
TIBPAL22VP10-25	220 mA	25 ns
TIBPAL20L8-20	180 mA	20 ns
TIBPAL20R8-20	180 mA	20 ns
TIBPAL20R6-20	180 mA	20 ns
TIBPAL20R4-20	180 mA	20 ns

NOTE: The TIBPAL22VP10-25 is an improved version of the TIBPAL22V10A, featuring an improved output macrocell and improved speed. However, the TIBPAL22VP10-25 may also be used as a TIBPAL22V10A and may be programmed using the programming support for the TIBPAL22V10A.

Technology Agreements

Users of conventional TTL and CMOS SSI/MSI families are now requiring shorter design cycles, faster response to design changes, higher levels of integration, and standard off-the-shelf product. The seven-year EPLD technology exchange agreement between TI and ALTERA will allow TI Military Products to offer these benefits utilizing the user-configurable EPLD architecture.

Second-source versions of the EP610, EP310, EP1810, EP910, and MAX™ products will be fabricated using TI's Enhanced Performance Implanted CMOS (EPIC™) process and will be available in 1990.

TI Military Products will also offer user-programmable gate arrays through the technology exchange agreement with ACTEL. Field-programmable gate arrays (FPGAs) allow the designer to create custom logic functions without the long leadtimes, tooling costs, and custom inventory costs of ASIC solutions. The TI/ACTEL agreement includes access to ACTEL's 1200-6000 gate designes and support of the ACTION LOGIC™ development system. Product introduction will begin in second half of 1990.

ACTION LOGIC is a trademark of ACTEL Corporation.
MAX is a trademark of Altera Corporation.