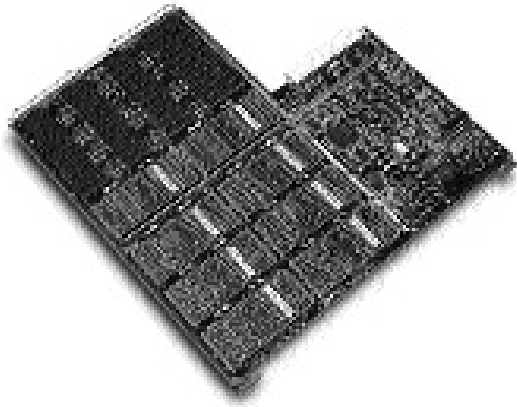


ATE

4200 Series Pure Pin Card



AEROFLEX
A passion for performance.

The NEW Non-Multiplexed FA23 Pure Pin card

- Non Multiplexed Architecture
- 128 Analog Test Channels
- 128 Digital Driver / Sensors
- Compatibility with existing 42xx systems
- Test program migration options

Introduction

The original 4200 series featured a high performance test point card (FA03) with a low multiplexing ratio of 4:1. The new 4250 test system features the FA23, a NEW non-multiplexed (or "Pure Pin") test point card. This new card is now being made available as an upgrade to users of earlier 42xx models.

Overview

The new FA23 is a non-multiplexed universal In-circuit test point card that provides a wide range of features. Being fully pin-out compatible with the original FA03 (universal) and FA13 (analog only) cards, the FA23 can be fitted into an existing 42xx test system and utilized with a minimum number of changes to test program and fixture wiring.

The FA23 cards may be used either alone or in conjunction with existing FA03 multiplexed cards. This allows an older system to be upgraded with additional test points without having to replace all of the existing cards.

The Computer Assisted Program Generation software (CAPG) has been enhanced for use with the new card. This allows new test programs to be created that make the best use of the available test point resources. The test point allocation can be adjusted to either maintain full compatibility with older systems or make the most effective use of the new hardware by minimizing the number of test point cards required.

Benefits

The new FA23 card offers several major benefits. First, each board contains 128 real digital driver/sensor circuits. This is FOUR times as many as the multiplexed FA03 board. For today's large CPLD and ASIC devices this will allow more digital pins to be allocated using fewer test point boards. For example, a 432-pin device could have required a minimum of 14 FA03 cards to fully allocate all device pins. With the "Pure Pin" FA23 cards, only 4 are required to achieve the same level of device access. Another major benefit of Pure Pin technology is the ability to migrate programs and fixtures from non-Aeroflex systems onto the 42xx series - see 'Migration between platforms' overleaf.

For the very latest specifications visit www.aeroflex.com

Major Features

In most cases, the FA23 provides directly equivalent features to those of the FA03 card. These include Node Forcing capability, programmable drive and monitor windows, pin terminators, learn memory and static guards. Details of these can be found in the specification overleaf.

The FA23 has an effective drive and monitor range for digital testing of 0V to 5V. This allows almost all current device technologies to be tested. For the few users that have devices that require voltages outside of this range (such as ECL), a single FA03 multiplexed card can be fitted to provide a limited number of pins with a wider voltage range.

Obviously the FA23 card makes use of today's technology both in its design and the components used in manufacture. It is this that has made it possible to squeeze four times as many digital pins onto a PCB of exactly the same size.

The latest design techniques employed can also be seen in improvements in the overall performance of the FA23; the FA03 was well known for its clean drive signals, the FA23 is better still!

Upgrade of older 42xx systems

The FA23 test point card has been designed to be compatible with existing PC controlled 42xx series test systems. However, these new cards allow four times as many test pins to be used within a test program which could lead to an overload of the system's power supply system.

To avoid these problems, an upgrade kit is available. This consists of a new test point rack backplane and new system power supplies / cables. Together these items ensure that the system is capable of handling a full 2048 of "Pure Pin" test points.

Test Program Compatibility

Most test programs with standard TTL and CMOS devices will require little or no editing to allow them to run with the FA23 "Pure Pin" cards. A detailed Application Note is available (from Aeroflex offices and distributors) which explains the differences between the cards and the software changes that MAY be required in certain circumstances.

Migration between platforms

Another major benefit is the ability the FA23 hardware now offers us in taking test program data and fixtures from other test systems and migrating to the Aeroflex 42xx platform. Traditionally, migrating test programs between two multiplexed test systems either involved a doubled-wired fixture adaptor or extensive time consuming fixture modifications.

By using the FA23 "Pure Pin" test point card, single wired fixture adaptors become a real possibility. This reduces the number of test points required and also, the cost of the test system.

The Aeroflex Computer Assisted Program generation software (CAPG) now includes optional features to assist in the migration of programs and test fixtures from the Agilent (Hewlett Packard) 3070 and Teradyne (GenRad) 22xx series of test systems.

SPECIFICATION FA23

128 test points per card

Signature analysis (CRC) per pin

Learn RAM

up to 4 pins per card

Logic Families

1 per board

Drive high voltage range

+1.2 V to +5.4 V

Drive low voltage range

0.0 V to +1.5 V

Sense levels

0.0 V to +5.1V

Drive high/low current

500 mA

Slew rate

60 V/ms

Backdrive timeout

10 ms-650 ms

Relaxation timer

1 ms-10 s

Testpin RAM depth

8 K per pin

Pin face skew

20 ns

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