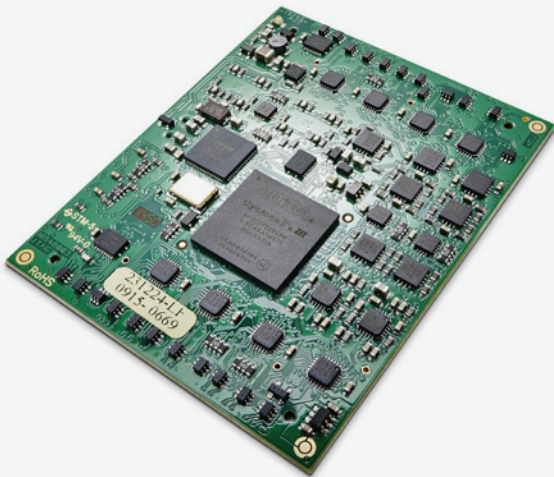# JT 5705/FXT Compact MIOS for JTAG based ATE

Boundary-scan, JTAG emulation, Digital IO, Analog IO,
& Frequency Measure

Key Features

- Build your own multi-function ATE system from this compact off-the-shelf module
- JT 5705/FXT tester 'engine' offers 2 JTAG TAPs and 64 mixed signal I/O channels
- Merge the tester engine with a JT 2702/xx break-out adapter for seamless integration into the fixture of your choice, for example ATX, ECT (Xcerra) D&D Mecatronic, Ingun, MG-Products and many others.
- Use ProVision for Automatic Test Generation or
- JFT (JTAG Functional Test) for lower cost Test Scripting under Python and LabVIEW etc.

The JT 5705/FXT is a multi-function JTAG controller and I/O instrument. It features two JTAG/boundary-scan TAPs (Test Access Ports) and 64 mixed signal I/O channels plus an option for custom programmable functions. This compact unit was designed for easy integration into fixtures making it ideal for building low-cost structural/functional production testers.

The I/O channels allow measurement and stimulus of both digital and analog signals, simplifying testing of signals through connectors and/or test points of the Unit Under Test (UUT). The test channels can be incorporated into a JTAG/Boundary-scan test or used independantly. With the benefit of both boundary-scan and the mixed signal I/O resources JT 5705/FXT users can enjoy increased test coverage for both the digital and the analog parts of a UUT.

Emulative Test Supported

Adding optional CoreCommander routines to your tester will allow µprocessors, DSPs and µcontrollers with JTAG enabled emulation and debug modes to be used for furher in-depth testing. For example an ARM core µcontroller with built in ADCs can be used to take analog measurements where it would not be possible to do so with boundary-scan alone.

Device Programming Options

For in-system programming of ICs the JT 5705/FXT can be supported by software to apply SVF, JAM/STAPL and 1532 format ISC files. This capability allows the unit to program nearly all programmable logic parts. What's more the unit can also execute applications generated by ProVision to program Flash (Serial and NOR types) and also µprocessors/µcontrollers with embedded memory.

From the total of 64 I/O channels per tester engine, up to eight can be selected as analog channels that can measure or source voltages up to 30 Volts (unipolar) or ± 15 Volts (bipolar). The remaining 56 channels are digital only. Of these digital channels 16 also have a frequency counter, 1 can be used as a programmable clock generator and 1 more can be used for pulse width measurements. For higher channel counts multiple JT5705/FXT modules can be combined.

Brief Capabilities

TAPs: Standard 3.3V (programmable 1.05 to 3.6 V; 5 V tolerant) max TCK = 15MHz

Digital I/O: 1.05 to 3.6 V; 5 V tolerant

Analog I/O: 0 to 30 V or –15 to +15 V

Frequency Measure: up to 200MHz

For full capabilities see JT5705/USB datasheet.

We *are* boundary-scan.®

JT 5705/FXT COMPACT MIOS FOR JTAG BASED ATE

Boundary-scan, JTAG emulation, Digital IO, Analog IO,

A) MG products cassette-style fixture - top (pressure) plate open

ELECTRICAL		Over Voltage Protection	
Power		Isolation threshold	VCC + 0.6V
External	12V, 0.5A		
		Isolation voltage protection	-0.5 V to +15 V
		Overshoot rejection	Overshoots less than 400 ns will not result in OVP isolation
TAP Connections		Pull-up resistor	20 – 50 K Ohm
Two controller TAPs	Max 15MHz TCK (in 55 steps from 1KHz)	Others	
With AutoWrite™		Frequency counter	0 to 200 MHz (chs33-48)
Connection types to carrier/fixture		Clock generator	0 to 62.5 MHz; step 0.0582Hz (ch 33)
2 x 68-way 1.27mm ERNI DIL	65mm centres on JT 5705/FXT	Pulse width measure	4 to 8192 ns; accuracy 1 ns (ch35)
PC connection.	Mini-USB type.	ENVIRONMENTAL	
		Temperature	
Digital I/O (channels 1-56)		Rated range of use	0° C to 60° C
Voltage range	1.05V to 3.6 V	Storage and transport	-5° C to 60°C
Output current	max ±8 m A @ 3.3 V	Relative Humidity	
Analog I/O (channels 57-64)		Operating	15% to 90% non-condensing
Voltage range	0V to 30 V or -15V to +15V @ 5mA max	Storage and transport	5% to 95% non-condensing
Resolution	16 bit (0.5 mV)	Vibration	
Relative fault	±(0.7% of full scale)	Swept sine resonance search	5 – 55Hz, 2 g (m s), 15 mins per axis, 10 mins resonance dwell
Input impedance	1 MOhm parallel with 100 pF		
Output impedance	100 Ohm .	Dimensions	
Sample rate	15 kS/s	Weight	30 grams

Typical usage example
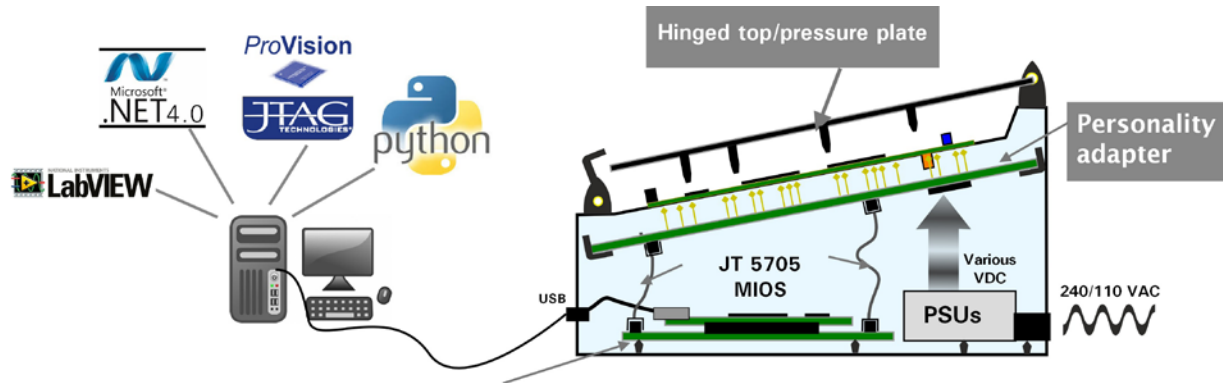
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