

## JT 5705/USB

Compact mixed-signal desktop boundary-scan controller



- ✓ 15 MHz TCK
- ✓ 2 TAPS
- ✓ 56 digital I/O Channels with OVP,  
8 analog Channels
- ✓ USB

The JT 5705/USB is a powerful self-contained JTAG instrument. It combines a 15 MHz JTAG/boundary-scan controller with 64 mixed signal I/O channels plus custom programmable functions. This compact unit was designed for desktop use in hardware validation, (small-scale) production testing as well as (field) service and repair.

Through the I/O channels both digital and analog signals on the connectors and/or test points of a Unit Under Test (UUT) can be measured and driven as part of a JTAG/boundary-scan test. Thanks to the mixed signal I/O channels of the JT 5705 the test coverage is increased for both the digital and the analog parts of a UUT.

From the total of 64 I/O channels, 8 can be selected as digital or analog channels that can measure or source voltages up to 30 Volts (unipolar) or  $\pm 15$  Volts (bipolar). The other 56 channels are digital only. Of these digital channels 16 have a frequency counter, one can be used as a programmable clock generator and one can be used for pulse width measurements.

In addition to their usage as boundary-scan I/O signals, the I/O channels can also be controlled via application specific digital functions that can be programmed in the reconfigurable FPGA of the JT 5705.

Multiple units can be "linked and sync'd" to provide higher I/O and TAP port counts. The unit is fully supported by JTAG Technologies application development tools (*ProVision* and *JTAGLive*) plus the full suite of run-time software options such as PIP/LV (drivers for NI LabView), PIP/TS (drivers for TestStand), etc.

Electrical			
<b>TAP Signals</b>		<b>Analog I/O channels</b>	
TCK	Range: 1 kHz to 15 MHz	Number of channels	8
Voltage levels	1.05 V - 3.6 V (5 V tolerant)	Voltage range	0 V to 30 V or -15 V to + 15 V @ 5 mA max
Output current	50% of output setting	Resolution	16 bit (0.5 mV)
<b>Digital I/O channels</b>		Relative fault	+/- 0.7% full scale
Number of channels	56/64	Input impedance	1 MOhm parallel with 100 pF
Voltage levels	1.05 V - 3.6 V (5 V tolerant)	Output impedance	100 Ohm
Output current	max +/- 8mA @ 3.3 V	Sample rate	15 kS/s
<b>Over Voltage Protection for Digital I/O</b>		Slew rate	0.5 V/μs
Activation threshold	Vcc + 0.6 V	<b>Additional functions</b>	
Isolation Voltage Protection	-0.5 V to +15 V	Frequency Counter (16 channels)	0 to 200 MHz
Overshoot rejection	No OVP isolation if overshoot < 400 ns	Clock Generator (1 channel)	0 to 62.5 MHz, step 0.0582 Hz
Pull-up resistor	20-50 kOhm	Pulse Width Measurement (1 channel)	4 - 8192 ns, accuracy 4 ns, resolution 1 ns
Mechanical			
I/O Connectors	4 x 20-pin IDC	Dim's (w-d-h) mm	175 x 105 x 19
TAP Connectors (TAP_IN, TAP_OUT)	2 x 10-pin IDC	Weight	160 grams

## Global Representation

Want to know more about our solutions and products?  
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We *are* boundary-scan.®

