Datasheet

JT 5112/RMIc Mixed I/O Scan (MIOS) module

Compact module for use in the JT 57xx/RMIc 19" rack-mount chassis

- **15 MHz TCK max**
- **Daisy chaining possible**
- **56 digital I/O Channels with OVP, 8 analog Channels**
- **Rack Mount**

Introduction

A rack-mountable boundary-scan controlled mixed signal I/O (MIOS) module. The JT 5112 MIOS module series offer a useful combination of 64 mixed-signal I/O channels (56 digital and 8 analog) with over-voltage protection in a space-saving design . A maximum JTAG TCK input frequency of 15 MHz allow is rapid test execution and all IO signal voltages are fully programmable. Enhance your JTAG/boundary-scan testing regime by utilising the the IO and analog features to measure power supplies, clock frequencies, test DACs and ADCs and improve coverage to test points and connectors.

Versatility

The JT 5112/RMIc variant has been developed to fit into a single slot of the low-profile 1U high JT 57xx/RMIc rack-mount-instrument system developed for industrialised ATE applications. Up to four JT 5112/RMIcs can therefore be housed in a single rack-mount chassis or mixed with other module types.

From the total of 64 MIOS channels, eight can be selected as digital or 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 have a frequency counter capability, one can be used as a programmable clock generator and one can also be used for pulse width measurements.

In addition to their usage as boundary-scan test and measurement signals, the I/O channels can also be controlled via application specific digital functions that can be programmed in the re-configurable FPGA of the JT 5112.

Switch Matrix Option

In its standard configuration the JT 5112/RMIc, presents the I/O signals to front panel 0.1" IDC connectors. To further increase the versatility of the unit, especially in ATE set-ups, a switch matrix board (part JT 2702/SM) can be added internally to the module which then allows any of the analog MIOS channel functions to be switched to any connector pin. In this way the analog features of the unit can be allocated to any of the 64 signal channel connector pins.

Alternative fixture-oriented models are also available: JT 5112/IB and JT5112/BO as well as a desktop model: JT 5112.

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

Global Representation

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Please contact us at our head office or visit our contact page.

JTAG Technologies *(Headquarters)*
Boschdijk 50, 5612 AN Eindhoven, The Netherlands
+31 (0)40 295 0870
info@jtag.com
www.jtag.com

Use the QR code for an overview of our global offices and local representatives:
www.jtag.com/contact-us

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2214-JT5112 RMIc-E-01