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## Hardware Reference

### iTRACE Probe JTAG Cortex

Ordering code iTRACE Probe JTAG Cortex	IC30346
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## Hardware Reference

### iTRACE Probe JTAG Cortex

<b>Ordering code</b>	<b>IC30346</b>
<b>Dimensions (WxLxH, mm)</b>	<b>28x73x13</b>



The iTRACE Probe is used to connect the target to the Emulator.

The iTRACE GT Extension Probe RTP is connected to the iTRACE GT system. The system is composed using the iTRACE GT OCD Module, the iTRACE PRO/GT Interface Card and the optional iTRACE PRO AUX Card.

<b>Ordering code iTRACE PRO/GT Interface Card</b>	<b>IC30230</b>
<b>Ordering code iTRACE GT OCD Module</b>	<b>IC30320</b>
<b>Ordering code iTRACE PRO AUX Card (optional)</b>	<b>IC30338</b>

### Target pinout

The iTRACE probe is connected to the target with a Mictor connector.

The following pinout is valid on the target side:

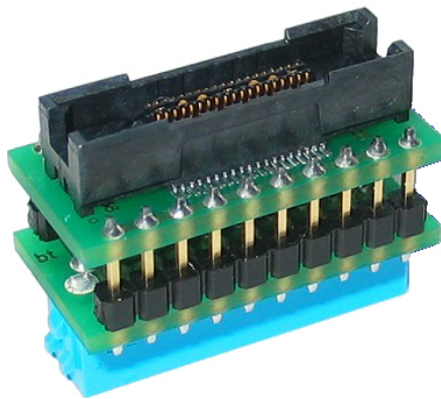
Signal	Pin	Pin	Signal
AUX[0]	1	2	AUX[1]
AUX[2]	3	4	AUX[3]
GND	5	6	TRACECLK
DBGRRQ	7	8	DBGACK
nSRST	9	10	EXTTRIG
TDO	11	12	VTref
RTCK	13	14	VSupply
TCK	15	16	TRACEDATA[7]
TMS	17	18	TRACEDATA[6]
TDI	19	20	TRACEDATA[5]
nTRST	21	22	TRACEDATA[4]
TRACEDATA[15]	23	24	TRACEDATA[3]
TRACEDATA[14]	25	26	TRACEDATA[2]
TRACEDATA[13]	27	28	TRACEDATA[1]
TRACEDATA[12]	29	30	Logic 0
TRACEDATA[11]	31	32	Logic 0
TRACEDATA[10]	33	34	Logic 1
TRACEDATA[9]	35	36	TRACECTL
TRACEDATA[8]	37	38	TRACEDATA[0]

*Cortex 38-pin Mictor target connector*

## Transforming the probe into an JTAG Debugger

<b>Ordering code</b>	<b>IAMIC38ARMPIN20</b>
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The iTRACE Probe can be transformed into an Cortex JTAG debugger using the shipped adapter, called IAMIC38ARMPIN20.



The following pinout is valid on the target side in this case:

2	4	6	8	10	12	14	16	18	20
Vcc	GND	GND	GND	GND	GND	GND	GND	GND	GND
VTref	TRST#	TDI	TMS#	TCK	RTCK	TDO	nSRST	DBGRRQ	DBACK
1	3	5	7	9	11	13	15	17	19

*ARM7 20-pin target connector*

## Input, Output Signals

The input signals TRACEDATA [15:0], TRACECTL, TRACECLK, EXTTRIG, DBGACK, RTCK, TDO and AUX [3:0] have 10Kohm impedance. The voltage must be between 1.8 and 5V.

The output signals TDI, TMS, TCK, DBGREQ and nTRST are push-pull outputs, the output voltage is equal to 3.3V or equal to VTRef, if VTRef is lower than 3.3V.

The input/output signal nSRST is an open drain signal with a 1Kohm pull-up to the VTRef level.

The VTRef is an input with the resistance of 1Kohm and is used only for reference. Its value can be between 1.8 and 5V.

The threshold for inputs is  $\frac{1}{2}$  VTRef, if VTRef is 3.3V or lower. If VTRef is higher than 3.3V, the threshold is  $\frac{1}{2}$  of 3.3V. The minimal VTRef is 1.8V.

## Emulation Notes

Hot attach is not supported. The probe must not be inserted into the target if the target is turned on or damage to the probe or iTRACE GT can occur.

It is advised to first turn on the Emulator and then the target.