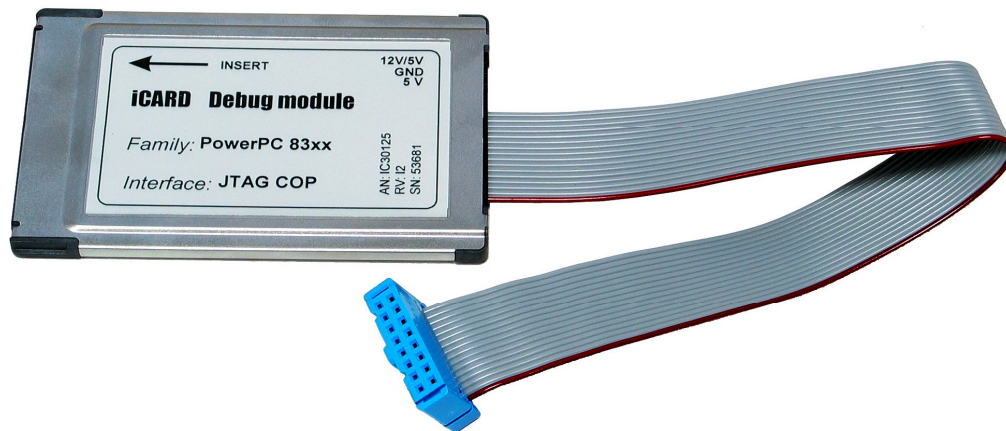

Hardware Reference

PowerPC 83xx iCARD Debug module

Ordering code	IC30125
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All information, including contact information, is available on our web site www.isystem.com. Feel free also to explore our alternative products.

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POD Hardware Reference

iCard

The iC3000 support a wide range of serial debug interfaces like Motorola's Background Debug Mode (BDM), the Serial Debug Interface (SDI) and the On-Chip Emulation (OnCE) interface. JTAG based debug interfaces are also supported by these Emulators. For each specific debug interface a special iCARD is available.

The iCARD is a PCMCIA-style interface card which contains all necessary adaptations including the target interface cable for a selected serial debug interface. The iCARD plugs into the PCMCIA-style card slot of the iC3000 unit. Features like on-chip-, in-system programming and programming voltage generation are standard features.

Note: Whenever connecting to the target both target and the Emulator must be switched off. The Emulator is first switched on, and the target right afterwards. Note that otherwise during connecting the target a massive current spike may flow during static discharge or ground potential equalization.

On some debugging iCards beside the interface specific cable there's a 3-pin connector. The 5V/300mA output provides power to small low-power targets. On some iCards, also the 12V/60mA programming voltage is available and also generated by the iC3000 development system and routed to the iCARD's 3-pin connector. Note that the 12V output is controlled by the software. The output defaults to 5V. On the iC3000 the current for 12V flows from the 5V source. Thus, a 12V/50mA load represents 120mA load on the 5V power source. Note that on interface cards for ActiveEmulator, iTRACE and similar this connector is not available, and also on some iCards, the 12V output is not available since it is not needed.

When not in use, the iCARD should be kept in its protective antistatic bag to ensure its dependability and keep the 68-pin PC-Card connector clean.

The iCard is a delicate piece of equipment. Always handle it with care, make sure not to bend it or deform it in any way, to keep it clean, etc. If these instructions are not followed, damage to the iCard or the Emulator can occur.

Note: Despite using the same format, iCARDs are not pin compatible with PCMCIA cards. Do NOT use iCARDs in PCMCIA slots and vice-versa! If the iCARD is inserted into a PCMCIA slot, damage to the iCARD and/or the PCMCIA slot will occur. If a PCMCIA card is inserted into the iCARD slot, damage to the PCMCIA card and/or the Emulator will occur.

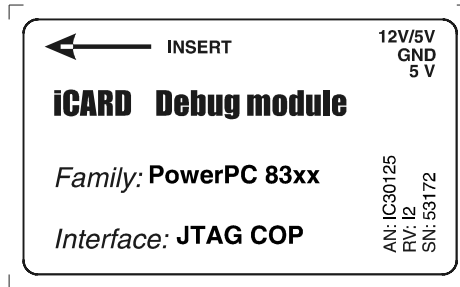
Temperature range

All iSYSTEM devices, unless explicitly otherwise noted, are specified to operate at room temperatures (specifically, between 10°C/50°F and 40°C/105°F).

Hardware Reference

PowerPC 83xx iCARD Debug module

Ordering code	IC30125
Dimensions (WxLxH, mm)	54x84x5



Supported CPU family
PowerPC 83xx

The following pinout is valid on the target side:

2	4	6	8	10	12	14	16
QACK#	TRST#	VDD	CKSTP_IN#		GND	key	GND
TDO	TDI	HALTED	TCK	TMS	SRESET#	HRESET#	CKSTP_OUT#
1	3	5	7	9	11	13	15

PowerPC 83xx debug connector pinout

Important iCard information

Note that despite using the same format, iCARDS are not pin compatible with PCMCIA cards. Do NOT use iCARDS in PCMCIA slots and vice-versa!

Emulation Notes

In case the customer uses I2C EEPROM to load the HRCW he should be aware of errata from FSL:

1) Override of HRCW word via JTAG when source is the I2C bus may not work if EEPROM on I2C bus contains an incorrect preamble.

DESCRIPTION:

JTAG has the ability to override the HRCW word read by the device through writes to internal registers. This procedure should not be dependent on the source of the HRCW word. However, if the source of the HRCW is the I2C bus and there is an invalid preamble stored in the EEPROM, the override procedure will not work. The

I2C bus will retry the HRCW fetch until it receives a good preamble. This will prevent the override sequence from being successful.

IMPACT:

If the customer is loading the HRCW from an EEPROM on the I2C bus and that EEPROM is blank or has an incorrect preamble, the overriding sequence will not work and the device will hang.

WORKAROUNDS:

A) Customer can temporarily tie the SDA to the SCL pin rendering the I2C bus non-functional.

B) Customer can pull-up the reset config pins to set the HRCW to load from a different interface such as local bus, and then override the HRCW word.

C) Customer can pull-up the reset config pins to use one of the default pre-loaded HRCW so the JTAG tool can gain control. Then program the I2C EEPROM with the appropriate HRCW.

AFFECTED PRODUCTS TO DATE:

ALL REVS of 8349, 8347, 8343

ALL REVS of the 832x, 836x, 8358

Notes:

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