LPC-H2106 HEADER BOARD FOR
LPC2106 ARM7TDMI-S MICROCONTROLLER

Features:

- MCU: LPC2106 16/32 bit ARM7TDMI-S™ with 128K Bytes Program Flash, 64K Bytes RAM, RTC, 2x UARTs, I2C, SPI, 2x 32bit TIMERS, 7x CCR, 6x PWM, WDT, 5V tolerant I/O, up to 60MHz operation
- DIL40 housing, so user can use existing sockets on prototype boards
- two on board voltage regulators 1.8V and 3.3V with up to 800mA current
- single power supply: +5VDC required
- power supply filtering capacitor
- RESET, DBGSEL, RTCK pullup resistors
- 14.7456 Mhz crystal allow easy communication setup (4x PLL = 58,9824 Mhz CPU clock)
- possibility for external clock-in
- extension headers for P0.0-P0.31, DBGSEL, RST, RTCK, XIN, +3.3V_OUT, GND
- PCB: FR-4, 1.5 mm (0,062"), green soldermask, white silkscreen component print
- Dimensions: 51x20 mm (2.0x0.75")
- space between the pin rows: 15.24 mm

Supported devices:
Philips Semiconductors Inc. LPC2106 16/32 bit ARM7TDMI-S™

Power supply:
Power supply is made with two LDO adjustable voltage regulators LM1117. Input voltage should be 5VDC. Watch out the polarity as schematic have no input protection diode and reversing the input power supply will be fatal for LPC2106 microcontroller

RESET:
Reset circuit is made by simple external RC group. There is possibility to apply RESET externally on **PIN3**

Oscillator:
External crystal 14.7456 Mhz allows very convenient communication values. This allows using Philips ISP flash programming utility at any speed.

PIN assignments:
PIN1 – GND
PIN2 – DBGSEL – pull low during power up to enable microcontroller's JTAG interface
PIN3 – External reset
PIN4 – 3.3V out (power out generated by LPC-H2106)
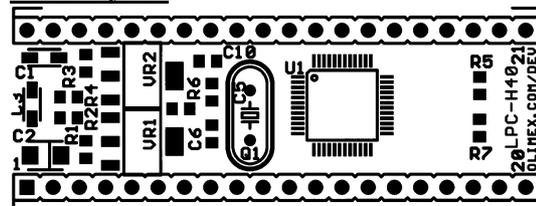**PIN5-PIN36** – sequential P0.0 – P0.31
PIN37 – GND
PIN38 – RTCK JTAG re-timed clock. Implemented on certain ASIC ARM implementations the host ASIC may need to synchronize external inputs (such as JTAG inputs) with its own internal clock.
PIN39 – Xin – input for external clock
PIN40 – Vin (+5VDC)

Board layout:

Ordering codes:
LPC-H2106   - assembled and tested with LPC2106 microcontroller

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LPC2106

U1

VR1 LM1117
VR2 LM1117

R1 240/1%
R2 390/1%
R3 220/1%
R4 100/1%
R5 10K
R6 10K
R7 10K

C1 10uF/6.3V
C2 47uF/6.3V
C3 10uF
C4 4.7uF/6.3V
C5 39pF
C6 39pF
C10 100p

Q1 14.7456MHz

+5V
GND
3.3V
1.8V

IN OUT
ADJ/GND

XIN

SV1
SV2

RTCK
DBGSEL
RST