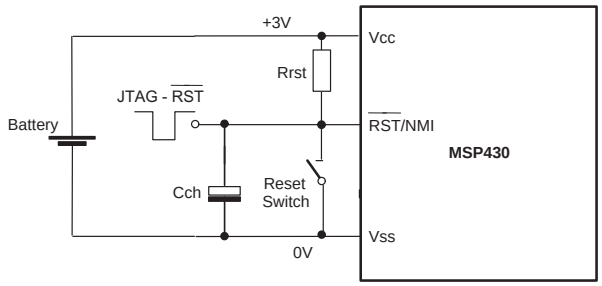
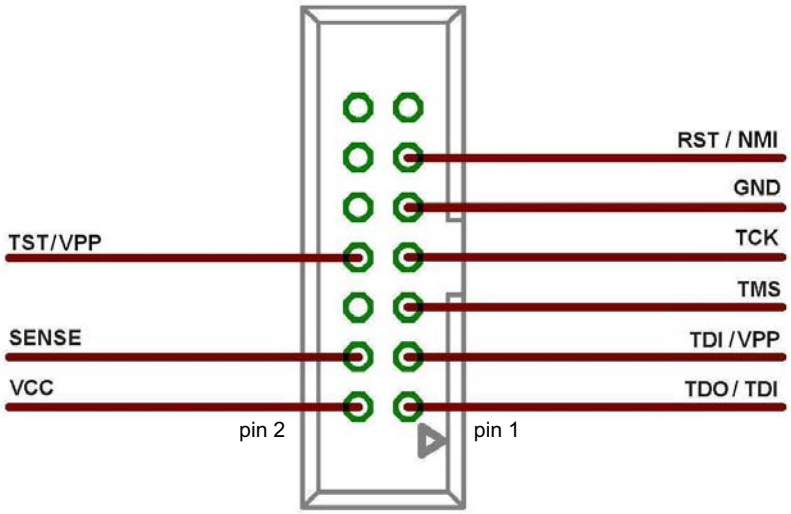
Reset circuit with reset switch and JTAG connection



Rrst = 47k to 100k
Cch = 10nF

JTAG Connector

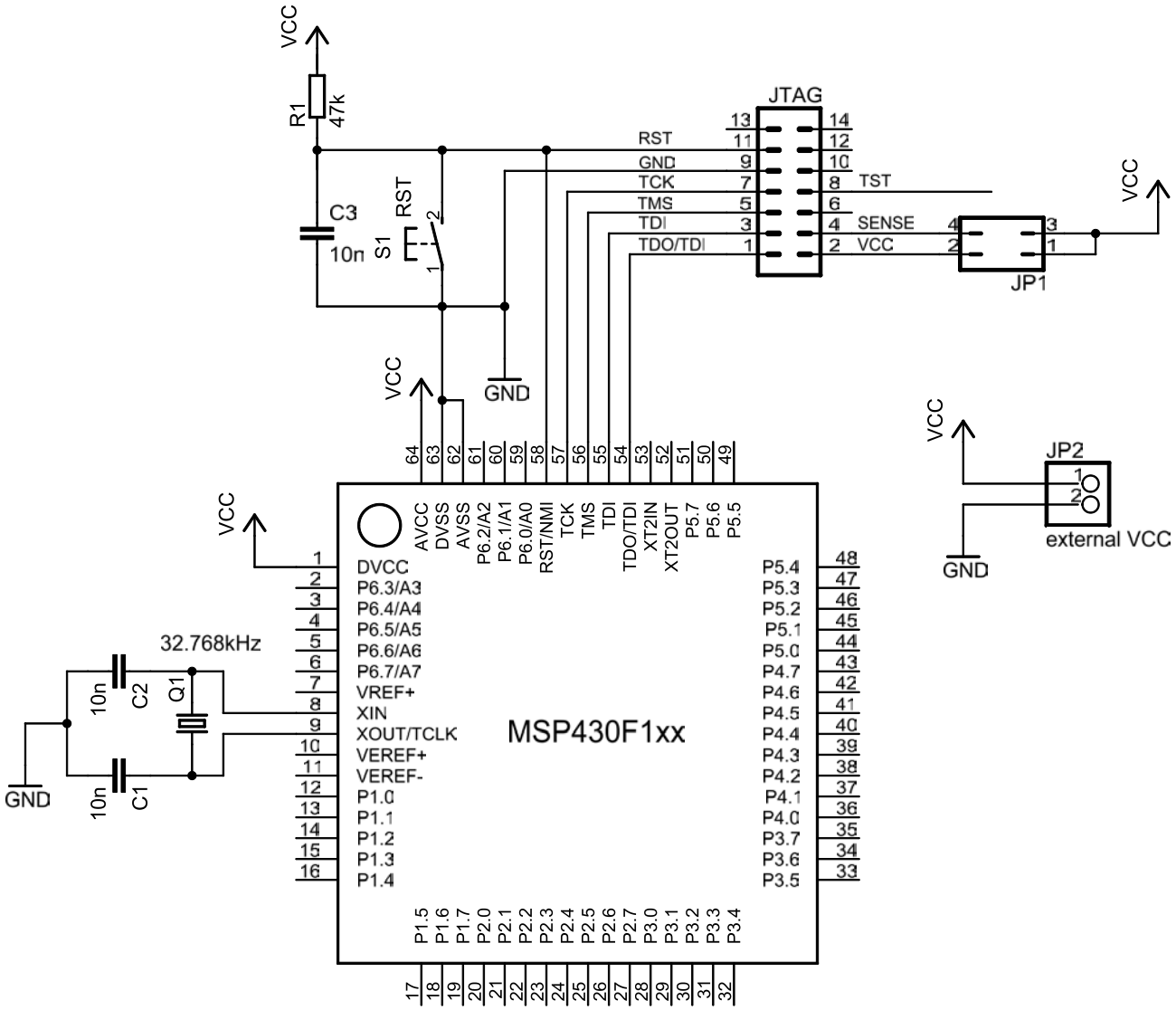


pin name	description
TDO/TDI	Test data output port. TDO/TDI data output or programming data input terminal
TDI	Test data input. TDI is used as a data input port. The device protection fuse is connected to TDI.
TMS	Test mode select. TMS is used as an input port for device programming and test.
TCK	Test clock. TCK is the clock input port for device programming and test.
$\overline{\text{RST}}$/NMI	Reset input or nonmaskable interrupt input port
VPP	External high voltage input for flash programming (Depends on device if shared with TST or TDI pin)
TST	Enable JTAG pins (Only on certain devices where JTAG is a third pin function) [see note 1]
XOUT	TCLK input [see note 2]
VCC	VCC provided by JTAG, this pin can be directly connected to VCC of MSP430
SENSE	Connected with VCC if external VCC is used
GND	Ground connection of JTAG

O = Output, I = Input

1. The TST pin must be high to use JTAG functions. During normal operation it must be tied low, a resistor <30k against GND is recommended to achiev that.
2. TCLK can be fed in over TDI or XOUT. If fed in over TDI, TDO becomes TDI.

Connection example



The above picture shows how to connect the peripherals to the MSP430. The example shows a MSP430 of the x1xx family, but this schematic is compatible with other MSP430 families.
The 32.768kHz Quartz Crystal is stabilized by two capacitors against ground.
A reset circuit is also attached. By pushing SW1 a hardware reset is performed.
A jumper JP1 allows to switch between JTAG- and external VCC, which can be connected to JP2. If JP1 is in the lower position JTAG-VCC is selected, in the upper position external-VCC is selected.
The JTAG-test-pin (TST) is not connected, as the x1xx family doesn't require to share pins.
On families that share pins the JTAG-test-pin must be connected to the device-test-pin, as shown in the picture below.
To keep the device-test-pin low during normal operation a pull-down resistor <30kOhms is recommended.