

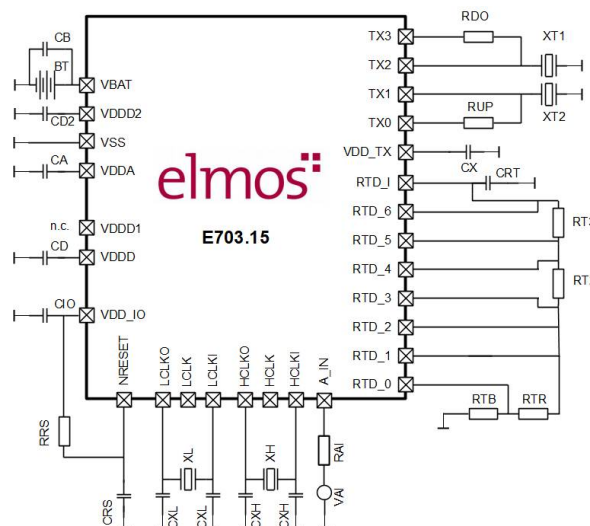
Features

- ultrasonic flow measurement unit
 - 40 ps time to digital converter
 - 2.5 Ω push / pull transducer driver
 - 200kHz up to 4.5Mhz sensor operation
 - receive amplifier with configurable gain stage and analog pulse shaping
- temperature measurement unit
 - 3x RTD (e.g. PT1000) 4 & 2 wire inputs
 - programmable current source
 - precision amplifier for absolute or simultaneous differential temperature measurement
 - 14bit low power SDM ADC
- 16 bit μC with MSP430 compatible instruction set
 - 4/8/12/16 MHz operating frequency
 - 32 kB flash memory & 5 kB SRAM
 - low power sleep mode with 32 kHz RTC and full SRAM retention
 - peripherals: 2xUART (with IrDA mode option), SPI, I2C Slave, I2C Master, 2xPWM, 12 GPIO ports, timers
 - floating point unit
- pulse output for legacy metering interfaces
- ROM based ultrasonic software library

Applications

- Ultrasonic (US) flow measurement application
- Energy Measurements (Heating Meter: US + T)
- Ultrasonic distance measurement

Typical Application Circuit



General Description

The E703.15 integrates flow and temperature measurement units with a fully featured 16bit μC. All analog front end modules are also integrated into the E703.15, thus a heat meter can be realized with only a few additional passive components. The flow measurement uses the time of flight principle. A time to digital converter (TDC) measures the run time in up- and downstream direction with pico second accuracy. An integrated receive amplifier employs pulse shaping for industry leading jitter performance. The temperature measurement unit evaluates up to 3 platinum sensors with an integrated 14 bit ADC. A configurable precision amplifier supports absolute and simultaneous differential temperature measurements. The integrated 16 bit uC processes the raw flow and temperature measurements. A ROM based software library provides ready to use time of flight measurement results. The integrated 32kB flash memory hosts the customized application code.

Ordering Information

Product ID	Temperature Range	Package
E703.15A	-40°C to 85°C	QFN48L7

Contact Info

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