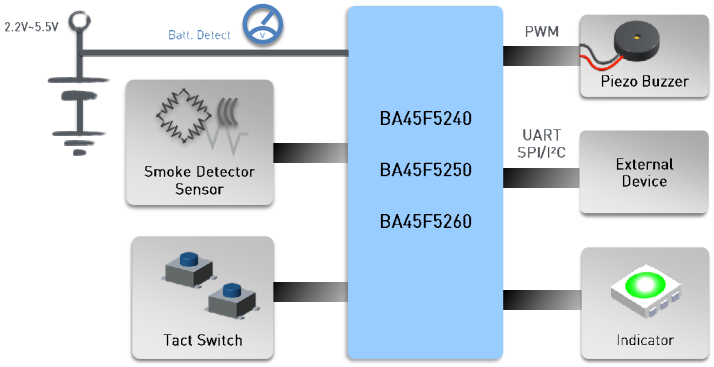
Smoke Detector MCUs

Holtek Semiconductor offers a wide variety of ICs for specific applications. Their smoke detector MCUs are based on an 8-bit RISC CPU and come with different options, but all include special features like analog-front-end, infrared LED driver and analog peripherals like 12bit ADC and 16bit DAC. Very small packages (8pin) are available as well as derivates with up to 48 pins for featured applications.

There are two sub-families: One for battery, the other for wired powered applications. For wired networks the transceiver for power line communication and also a LDO to power up the smoke detector MCU is integrated. The battery powered devices enable networking with its build-in wireless transceiver.

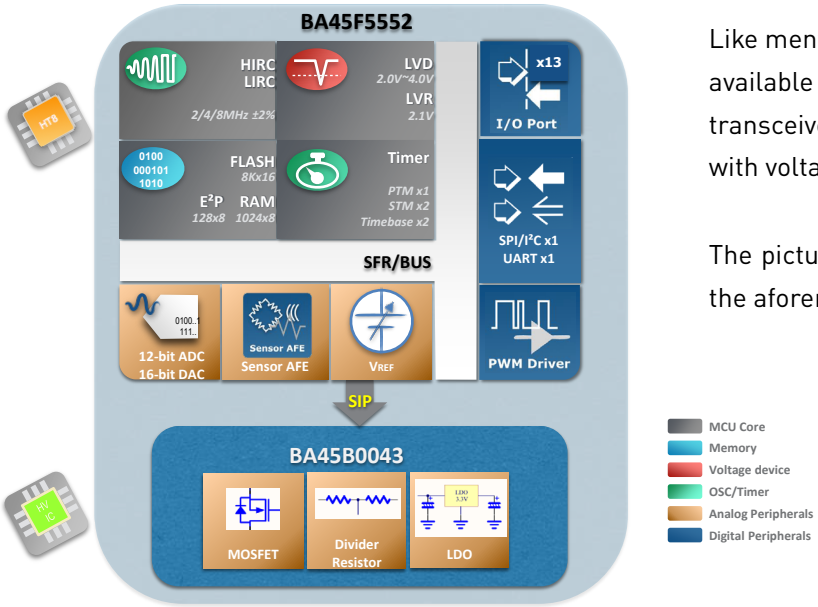


battery powered application

Reference Design for a complete solution (with a battery): LINK

Benefits of using the Holtek MCUs inside your Smoke Detector:

- 2.2V - 5.5V operating V_{BAT}
- Smoke detector AFE
- IR Driver (Dual tunnels)
- LDO (BA45F55xx only)
- Power line transceiver (BA45F55xx only)
- Competitive pricing
- Professional security solution
- Reference designs available
- Low power consumption
- Flexible program parameter modification
- Integrated memories (ROM, RAM, EEPROM)



for powerline solutions with an integrated LDO running up to 42V

Like mentioned before, there are also powerline based MCUs available which come with an integrated LDO and a powerline transceiver (+MOSFETs) therefore they can operate in systems with voltage levels from 5.2V up to 42V.

The picture on the left refers to the BA45F5552. It combines the aforementioned BA45F5250 and the BA45B0043.

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