Save Power, Stay Connected

78K low power MCUs for Home Multimedia applications

Renesas Electronics
www.renesas.eu

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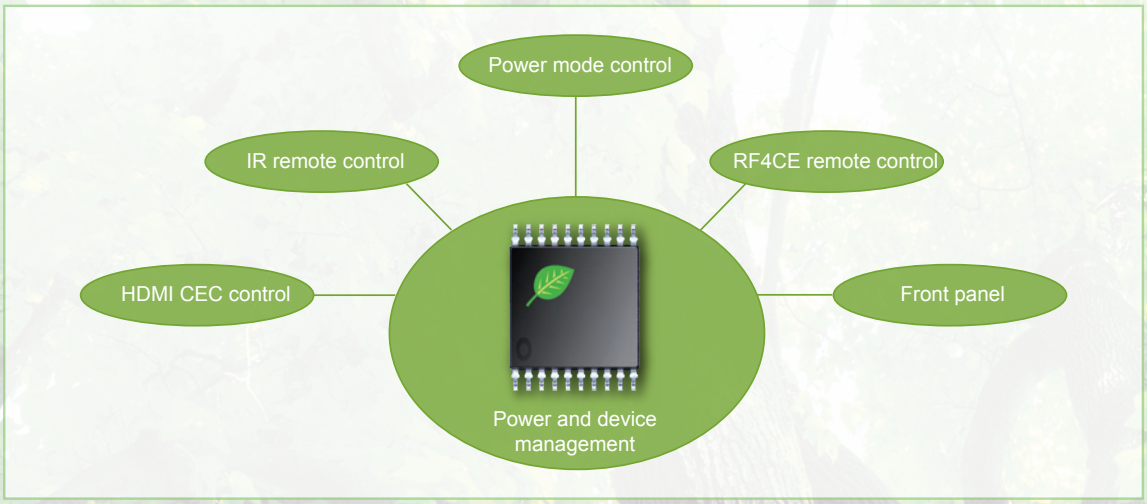
“Go Green” – Super low power

Environmental concerns and consumers are driving the strong demands for eco-friendly and best energy efficient appliances. Governments are introducing legislation regulating the permissible power consumption of consumer equipment. At the same time no compromise is made on the features and the overall system performance.

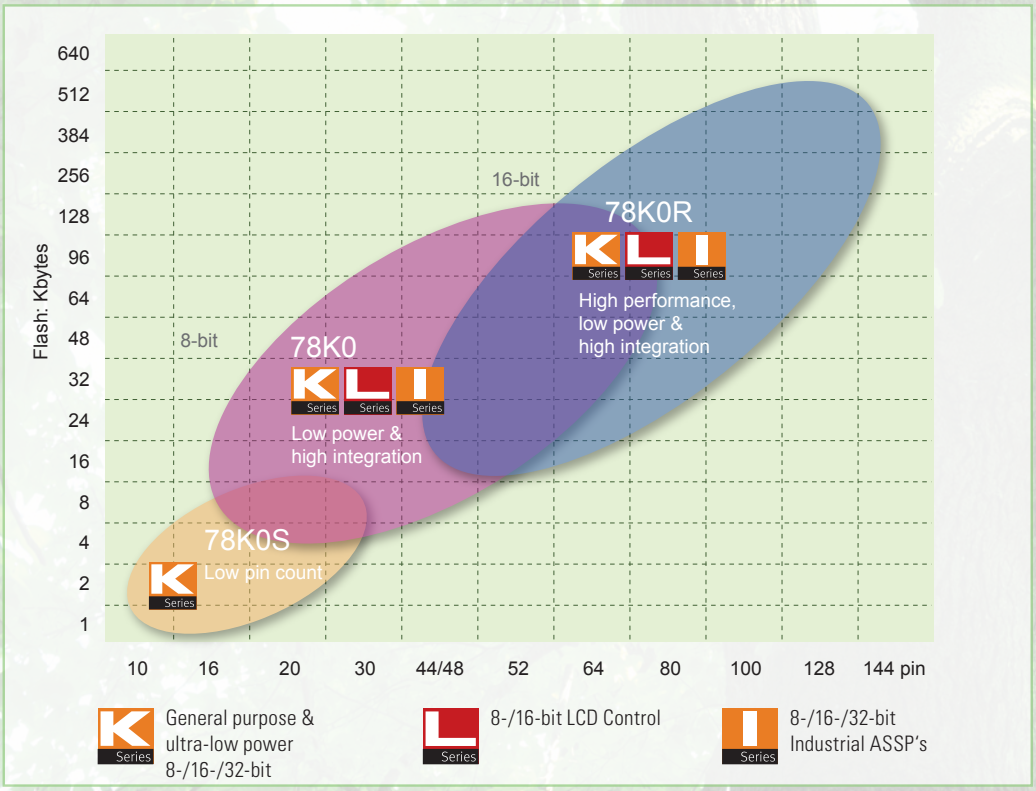
The 78K series of microcontrollers from Renesas can take control of the standby power by managing the multitude of inputs that a Set Top Box may receive, thereby enabling energy efficient products.

An essential factor to the manufacture of green products is the establishment of factories with low environmental impact. Toward this end Renesas promotes Eco-factory by introducing environmental management systems (EMS) and other systems to reduce the environmental impact.



Microcontroller portfolio

Renesas’ latest generation of 8- and 16-bit microcontrollers combine an innovative mix of new and more established peripherals, integration of traditional system components and industry-leading power consumption.



Low power standby

Tough new regulations restricting power consumption of CE products in standby mode creates another challenge designers must meet.

In low to mid range Set-Top Box or Digital Video Recorder (DVR) applications a 78K0/KX2-L with just 0.8 µA standby current, may be used not only to manage the IR remote control and the front panel display, but also to control the multiple power supplies and devices.

Touch sensitive control

Todays consumer demands stylish products and the latest trend is to use capacitive touch sensors buttons, avoiding mechanical keys for the front panel controls of Digital TVs and Set-Top Boxes.

Once again, Renesas microcontrollers can provide a solution to designers. Utilising an extremely noise robust and low power consumption capacitive touch sensing solution, even the Standby-Power button can be implemented in this way.

HDMI CEC control

HDMI connectivity is becoming widely used in STB, DVR and iDTV products. The HDMI Consumer Electronics Control (CEC) interface incorporated into the HDMI standard adds more convenience features for the user.

Renesas can provide a software library for HDMI CEC that runs on either the 78K0/Kx2 or 78K0R/Kx3 device families or a dedicated 78K0R/Kx3-C device with peripherals to manage the CEC interface without loading the CPU to provide a minimum power solution.

This enables the main MPEG decoder IC and other devices to be shutdown and only awoken when they are needed.

RF4CE wireless remote control

The emergence of the RF4CE standard means that RF remote controls are becoming more widespread. Based around the industry radio standard IEEE 802.15.4, it has been designed for lower power and cost applications.

Renesas and its partners provide a comprehensive RF4CE stack library together with easy-to-use development solutions that remove the difficulties traditionally involved in wireless design and deployment.

As well as a dedicated single-chip solution based on our 16-bit 78K0R core integrating microcontroller and RF, for additional flexibility you can also run RF4CE with almost any of Renesas' All Flash microcontrollers with an external RF transceiver.

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