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Microcontroller-implemented peak detector

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Reliable peak detectors are of great importance in medicine where they are used to monitor blood pressure, detecting hypertension and heart rate variability, respiration maxima in apnea patients, QRS peaks in ECG, allergy levels etc. This work presents some aspects on the implementation of peak detectors in general and microcontroller implementations in particular. This work presents the problems concerned with implementing peak detectors in microcontrollers, how they can be solved and what performance numbers you can expect from a microcontroller-based peak detector. Prototype hardware is presented as well as preliminary performance diagrams. The advantages and disadvantages of microcontroller-based peak detectors are discussed.

Biography

Lars E Bengtsson is a senior Lecturer in embedded systems at University of Gothenburg (Sweden) since 2007 and was prior to that a Lecturer at Chalmers University of Technology. He has a PhD in Physics and his main research area is embedded measurement systems and instrumentation. He is the author of several textbooks, scientific articles and conference contributions on embedded systems and electrical measurement techniques. He has also served as a visiting scientist at NIST in Washington DC.

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