Electronic Product Design&Test

Sensors

Heart rate sensor with marked efficiency

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The BH1790GLC Heart Rate Optical Sensor from ROHM offers ten times less infrared radiation than conventional products, and almost three quarters less the battery consumption.

The product, unveiled by Willow Technologies, has a specialised optical filter that enables high accuracy detection; this extends battery life while reducing the effects of infrared radiation (IR) rays ten times more than conventional products. This makes it possible to achieve high quality pulse signals even in environments with a strong IR presence, such as outdoors or under intense movement.

Bhupinder Randhawa, senior sales engineer at Willow commented: "ROHM's optimisation of this device reduces the power consumption [compared to conventional heart rate sensors] by an enormous 74%, making the battery for the wearable device much longer lasting."

The Heart Rate Optical Sensor is just 2.8 x 2.8 x 0.9mm and capable of detecting high quality pulse signals, using low ventricular fibrillation, low brightness LED elements. This eliminates the requirement for DC/DC circuits for LED power supply, which are conventionally necessary. The result of which is a 30% smaller mounting area when compared to devices that do not offer such a feature – thus lightening the development load.

Concluded Randhawa, "By leveraging proprietary analogue circuit technology and their optical sensor expertise, ROHM has improved the sensor's sensitivity, which allows pulse wave detection with very high accuracy, even with low LED brightness. The data from the new BH1790GLC can be collected and the sensor information processed using an optical heart rate monitor expansion board that Willow can also highly recommend."

Contact Details and Archive...

- Willow Technologies Ltd