

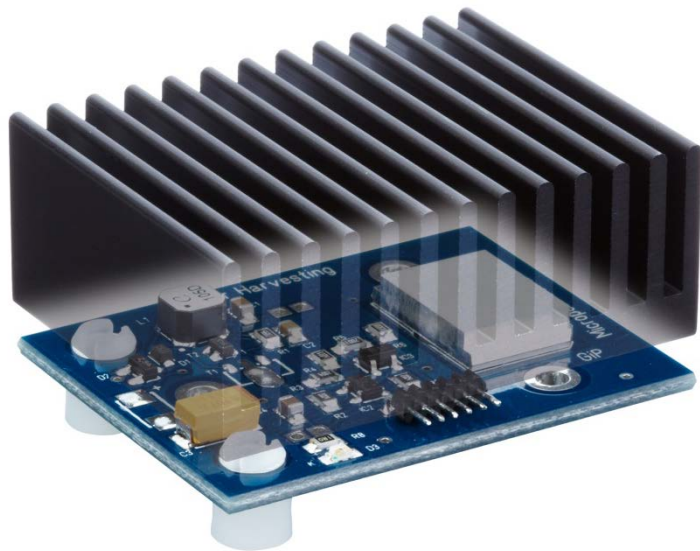
Thermoharvesting Breaks Cost Barriers While Going Embedded

Micropelt's new configurable energy harvesting DC source offers battery alternative

Freiburg, 19 October 2011 –Micropelt, Germany's maker of thermogenerator chips (TEG) announces its TE-CORE, a maintenance-free self-sustaining power source for ultra-low-power wireless applications. The configurable thermal energy harvesting module offers system integrators and vendors of autonomous sensors and micro actuators a fast way to battery-less system design and virtually indefinite maintenance-free operation. The module produces electric energy when put in contact with a heat source from about 10 °C above ambient air.

Micropelt's TE-CORE7 thermoharvesting module is built around a new SMD thermogenerator package (TGP) called TGP-751. The TGP incorporates the central part of the thermal path which absorbs heat from a hot surface and dissipates it to ambient air or a cold structure.

For powering a wireless application the TE-CORE7 embeds the TGP-751 in a new low-cost version of Micropelt's DC-Booster with 2.4 V fixed output voltage and a power output ranging from 150 Microwatts to over 10 Milliwatts, depending on the available temperature differential. A configurable hysteresis regulation allows for configuring the output voltage between 1.9 V and 4.5 V. A dedicated solder interface is available for adding buffer capacitance to cope with higher



TE-CORE Thermoharvesting Power Module

demands of energy per duty cycle. The TE-Core module can be magnetically attached to many heat sources, whereby the exchangeable heat sink can help in adjusting the power balance. "This compact module makes it very easy for our customers to evaluate thermoharvesting as a battery alternative. Beyond that, for a much faster time-to-market, the TE-Core can be embedded into prototypes and even small series of wireless solutions with very little development effort", said Burkhard Habbe, VP Business Development."

Fritz Volkert, CEO of Micropelt, has good economic reasons for offering the TE-CORE: "We're ramping our multi-million unit production line and want to let the market know that we're ready for volume." Volkert continues, "One key market that we address is the 100s of millions of

heating radiators in Europe where Micropelt technology enables self-sustaining and battery-less, thermostatic valves. Intelligent radiator valves have proven to save between 10% and 20% of fossil energy, and now even better: You never again have to change the batteries.

TE-CORE7 samples for evaluation and prototyping are available for 70 EUR (99 USD) at Micropelt and its distributors.

About Micropelt

Micropelt GmbH, Freiburg, Germany, develops, produces and markets the world's smallest and most effective thermoelectric elements for clean-tech micro energy harvesting, thermal sensing, cycling and cooling. The company employs 23 staff and recently opened their first million-unit production facility, also located in Germany.

Micropelt's thermoelectric chips are based on a patented scalable thin film micro-structuring platform technology, which minimizes component size while maximizing power density for energy harvesting, cooling or thermal cycling applications. Process-inherent economies-of-scale break previous cost and price barriers of conventional thermoelectrics. Batteries become obsolete as cost-free electricity from waste heat powers wireless sensor networks for their entire life. Chip-thermogenerators also boast unprecedented sensitivity, resolution and dynamics in sensing heat flux and temperature change.

For more information contact Micropelt or visit the website <http://www.micropelt.com>