

Presseinformation

Little chips with a cool effect

VILLACH, 19 September 2016 – We're all familiar with the problem: when summer comes, our refrigerators are working flat out. Drinks straight out of the refrigerator cool us down but every time we reach into the refrigerator, lots of energy is lost at the same time. The compressor in the unit has to work constantly on recooling. However, people who rely on the right technology with expertise from Austria can save both energy and costs.

Using inverter technology, Infineon demonstrates how “energy guzzlers” can learn to be smart savers. Considering just the electricity consumption of all the world's refrigerators, by using the inverter technology there's potential to save 172 terawatt hours (TWh) per year while maintaining the same performance. That's more than a country like Sweden uses in a year.

Chip technology from Austria lowers electricity consumption

Energy-saving chips by Infineon are already lowering electricity consumption by more than 30 percent in many new appliances. Semiconductors control the current flow and adjust the motor's output to suit demand. In 2015 around 24 million appliances were delivered worldwide and approximately one in four contained Infineon chips that are developed and produced mainly in Villach.

The chips are based on a frequency converter or ‘inverter’, with experts therefore talking about “inverterising”. Thomas Koller, Head of the Product Line “High Voltage Discretes & Solutions” at Infineon, says, “By contrast with conventional motors which only have two power settings, 100% on and 100% off, in a refrigerator with inverter technology the output of the motor can be continuously adjusted to suit demand. It's ideal if motors are so smart that they automatically adjust to the ambient conditions.” Data such as temperature, humidity and motor speed are measured by sensors. From this data, a microcontroller calculates the necessary control commands. The energy-saving chips then convert them into the compressor's ideal speed. As a result, the appliances become quieter, more durable and more energy efficient. Infineon manufactures all the components needed for this and a large proportion of them come from Villach.

Cool fridges save energy and protect the environment

Taking the refrigerator as an example, the savings that can be made are obvious.

Using the inverter technology, it's possible to reduce the electricity consumption per refrigerator by an average of 144 kilowatt hours (kWh) per year. In Austria, that's up to EUR 34 per refrigerator. The global potential is enormous: worldwide use of the inverter technology in refrigerators alone will save 172 terawatt hours (TWh) per year while maintaining the same performance – more electricity than the whole of Sweden uses in a year. In Austria, with nationwide use of inverter refrigerators, it's possible to make an overall saving of around 10 million kWh of electricity. That equates to an average electricity consumption of approximately 2,380 households per year. Inverterising, however, not only saves electricity but also protects the environment: the worldwide use of inverters prevents around 80 million tons of CO₂. That equates approximately to the annual emissions of 30 million cars.

Outlook – Share of inverterised domestic appliances is rising steadily

In addition to refrigerators and freezers, there are already washing machines, dryers, air conditioning systems, induction hobs and microwave ovens that operate with the efficient inverter technology. The technology is gaining ground: it is forecast that inverter technology in domestic appliances will experience a global growth of around 16 percent by 2019.

About Infineon Austria

Infineon Technologies Austria AG is a group company of Infineon Technologies AG, a world leader in semiconductor solutions that make life easier, safer and greener. Microelectronics from Infineon lower the energy consumption of consumer electronics, domestic appliances and industrial installations. They make a significant contribution to the comfort, safety and sustainability of vehicles and enable secure transactions in a connected world.

Infineon Austria is the only location alongside Germany that pools the skills for research and development, production and global responsibility. Its headquarters are located in Villach with other branch offices in Graz, Klagenfurt, Linz and Vienna. With around 3,500 employees (including 1,300 in research and development) from some 60 countries, the company achieved sales of €1,4 billion in the 2015 financial year (end of September). A research quota accounting for 25 percent of total turnover makes Infineon Austria the strongest research company in Austria.

Further information may be found at www.infineon.com/austria

More information about energy saving is available at www.infineon.com/energieeffizienz

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