

Press release

Kyocera presents ground-breaking "non-magnetic", high temperature resistant packaging solution for microelectronic components

Kyocera's Semiconductor Components Division is dedicated to developing cutting-edge non-magnetic applications for sectors such as medicine, industry and avionics.

September 30, 2014 – Kyoto/Neuss – Kyocera's development of this innovative ceramic packaging is based on established HTCC technology (High Temperature Co-Fired Ceramics), which is currently used with specific "non-magnetic" piece parts and plating options. Kyocera is now presenting a new type of HTCC with platinum metallization on the top surface and in ceramic multilayering. Besides the "non-magnetic" property of platinum metallization, this unique technique and choice of materials also allows for use in high temperature applications up to 1.000°C. For instance, the wireless SAW temperature sensor of the company Vectron, which can be used to screen temperatures up to 600° C, has been developed based on Kyocera's component package. Furthermore, customized packages for individual applications can be delivered, for example, the design can include or omit leads and can also be made compatible with a surface mountable concept if required.

With this new packaging solution Kyocera aims to meet the new demands of various business sectors and in a broad range of applications for which hyperfine position sensing is fundamental. Among others, these include highly sensitive medical equipment such as magnetic resonance tomography; electronic applications in aeronautics including atomic clocks and sensors; vacuum equipment in

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Press release

electron microscopy; as well as other industrial processes like downhole drilling for exploration purposes.

The new platinum multilayer technology (HTCC) offers an innovative and unique approach to "non-magnetic" ceramic packaging applications, where the proven reliability of ceramics are required. Moreover, it also enables customers to push the limits of HTCC packaging towards higher temperature applications in harsh environments, such as automotive sensors and oil exploration.

"In any field where extremely sensitive technology is responsible for smooth operation, the non-magnetic characteristics of this product will be highly valued," explains Shigeru Koyama, president of Kyocera Fineceramics GmbH. "It is always important for us to offer our clients from different sectors new opportunities with our technology."

This new offering from Kyocera's Semiconductor Components
Division complements the broad range of electronic packaging
solutions the company offers for a wide variety of applications based
on ceramic, metal and organic material technologies. This range
comprises ultra-high vacuum products, opto-electronics, broadband
telecommunications, mobile and satellite communications,
surveillance system, sensors — including image sensors and
MEMS — automotive electronics, medical devices as well as
computers and consumer electronics.

For more information about Kyocera:

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About Kyocera

Headquartered in Kyoto, Japan, Kyocera Corporation is one of the world's leading manufacturers of fine ceramic components for the technology industry. The strategically important divisions in the Kyocera Group, which is comprised of 230 subsidiaries (as of April 1, 2014), are information and communications technologies, products which increase quality of life, and environmentally friendly products. The technology group is also one of the largest producers of solar energy systems worldwide, with more than 5 gigawatts of solar power having been installed around the world to date.

The company is ranked #531 on *Forbes* magazine's 2014 "Global 2000" listing of the world's largest publicly traded companies.

With a global workforce of about 70,000 employees, Kyocera posted net sales of approximately €10.19 billion in fiscal year 2013/2014. The products marketed by the company in Europe include laser printers, digital copying systems, microelectronic components, fineceramic products and complete solar power systems. The Kyocera Group has two independent companies in the Federal Republic of Germany: Kyocera Fineceramics GmbH in Neuss and Esslingen and Kyocera Document Solutions in Meerbusch.

The company also takes an active interest in cultural affairs. The Kyoto Prize, a prominent international award, is presented each year by the Inamori Foundation — established by Kyocera founder Dr. Kazuo Inamori — to individuals and groups worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind (converted at present €362,000 per prize category).

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