Junkosha seeks industry collaboration in desire to increase outgassing standardisation

Cabling and interconnect pioneer continues to push outgassing boundaries as demands for improved yields increase

Cabling and interconnect pioneer Junkosha is asking the semiconductor industry – forecast to grow in 2018 and 2019 to US\$ 463 billion and US\$ 484 billion respectively¹ - to collaborate on increasing the levels of outgassing standardisation across the sector, to include the essential cabling and interconnects that are at the heart of today's highly sophisticated microchip manufacturing processes.

As outgassing widens its impact, currently including application areas such as electronics, medical systems and equipment, and satellites and space-based apparatus to name a few, the need for standardisation to stop the poorer quality operators from manufacturing low end, cheaper cabling is an imperative now more than ever before. "However, U.S. tariffs on Chinese exports in the sector will inevitably squeeze margins for manufacturers and quality could become one of the first casualties, adding further pressure on the industry," explains Joe Rowan, President and CEO of USA and Europe for Junkosha.

In the past, outgassing was not a material characteristic of concern to all circuit designers. However, as the need for 'clean' environments increases across a wider variety of sectors and application areas, so the level of outgassing allowed must reduce to enable higher yields in the chip manufacturing process. It is for this reason that Junkosha is seeking to collaborate with the semiconductor industry in its desire to increase outgassing standardisation to provide consistency and confidence in measurements undertaken.

Semiconductor manufacturing, which typically utilises ultra-high vacuum (UHV), is among the most demanding industrial environments from the standpoint of outgassing and particulate contamination. A particle as small as one micron in size can cause a short circuit in a device costing tens of thousands of dollars to produce; a single fingerprint can have the same damaging effects.

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¹ https://www.wsts.org/76/103/WSTS-Semiconductor-Market-Forecast-Spring-2018

Despite the hesitancy for industry to move to the 450 mm platform, the cost of process tools and contamination based failures is rising sharply.

"The need for reduced outgassing in the cleanroom and UHV environment is getting ever greater as microchip manufacturers are called upon to develop more and more cleaner products for a wider set of applications," says Rowan, adding "as we move into a 5G world, where there will be a huge increase in the amount of devices entering onto the networks, reduced outgassing throughout the chip manufacturing process will be a necessity. This is why standardisation is needed to make sure we all benchmark ourselves to a higher level."

At this year's SEMICON Europa event, being held between 13-16th November in Munich, Germany, Junkosha will be discussing the requirement for outgassing standardisation in conjunction with a significant product launch it will be making. For more information about this, or to schedule a briefing with Joe Rowan, please contact Andy Parker on andy@kredoconsulting.com.

For more information on Junkosha's precision engineered cabling and interconnect solutions, click on http://www.junkosha.co.jp/english/.

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This release has been issued on behalf of Junkosha by Kredo Consulting Ltd. For further information please contact Andy Parker on andy@kredoconsulting.com or +44 (0) 1242 650573 or Steve Thomas on steve@kredoconsulting.com or +44 (0)1242 650574.

About Junkosha

Junkosha is a pioneer of sophisticated fluoropolymer application technologies across many sectors including microwave interconnect and medical devices. Operating from three centres in Japan, including its headquarters, the company also has sites in the US, UK and China. Junkosha has built a formidable reputation and it is one of the best kept advanced technology secrets outside of Japan. The company provides wire and cable products, featuring microwave interconnects, robot cables, high data rate cables, camera link cable assemblies, ultrafine coaxial cables and assemblies, cables for clean environments, and general wires and cables. It also provides tube and fitting products, including generic resin tubes, fluoropolymer tubes, high-barrier tubes, flexible multi-layered tubes, industrial hoses, degassing modules, heat-shrinkable tubes, and the market leading peelable heat shrink tubes.