PRESS RELEASE

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TopLine Files Patent for Indium-Niobium Solder Columns for Quantum Computers and Cryogenic Environments

Irvine, California, USA - TopLine Corporation, a pioneer and developer of a wide range of advanced electronic packages for PCB assemblies, has filed for a patent for Indium-Niobium solder columns for chip packages intended to operate in cryogenic environments.

"Some applications, including Quantum Computers, perform better at cryogenic temperatures, above what is known as the superconductivity point," Hart says. "This super-cold world is the normal environment for applications including lunar landings, deep space exploration, scientific sensors and instruments, and AI/ML data centers, to name only a few. But it is also a place where thermal mismatch (CTE) between the device and the circuit board become more critical with extreme changes in temperature, inevitably leading to failure," he says.

"Traditional Ball Grid Array (BGA) spheres have a history of failing in these environments," Hart says. "Recognizing this weakness, TopLine has developed a family of Braided Solder Columns for cryogenic environments and next generation applications, replacing solder balls on IC packages of varying sizes. These columns provide improved reliability and thermal properties over competing technologies. Solder balls and heritage copper wrapped solder columns are not equal to the task." TopLine CEO, Martin Hart, already hold multiple patents in the field of column grid arrays.

About TopLine

TopLine manufactures a wide range of solder columns for CCGA semiconductor packages, and provides Daisy Chain CCGA packages for engineering development, profiling and practice. TopLine products provide hands-on learning for engineers. To learn more, visit www.CCGA.tv or call (1+) 800 – 776-9888.

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