



**IRVINE SENSORS**  
CORPORATION

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## **IRVINE SENSORS CORPORATION NEWS RELEASE**

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**FOR IMMEDIATE RELEASE**

### **IRVINE SENSORS DEVELOPING NEW TYPE OF STACKED MEMORY First Order Received for TSOP packages converted to low-profile BGAs**

COSTA MESA, CALIFORNIA – March 31, 2004 -- Irvine Sensors Corporation (Nasdaq: IRSN, Boston Stock Exchange: ISC) today announced that it is developing a new type of stacked memory product. The new product involves the modification of industry-standard Thin Small Outline Packages (TSOPs) to permit them to be stacked and mounted using Ball Grid Array (BGA) attachment technology, with a height nearly half that of a comparable stack of standard BGA packages.

Chip packages with BGA attachments generally use much less area and save valuable mounting space on circuit boards as compared to TSOPs. Because of this advantage, semiconductor manufacturers are increasingly offering integrated circuits (ICs) in BGA packages. However, not all ICs are expected to be available in BGA packages, at least not initially. Furthermore, a stack of unmodified BGA packages can exceed the physical height requirements of some applications. The new Irvine Sensors stacked memory products are being developed to address both of these issues. The first products being developed consist of stacks of up to four Micron® 512 Mb SDRAM Double Data Rate (DDR) 333 MHz parts. A two-chip-high version of this stack is expected to be only 1.7 mm high, compared to a height of 3.2 mm for Irvine Sensors' stack of two comparable standard BGA parts. A four-chip-high version is expected to be only 3 mm in height. Future products are also expected to include stacked SDRAM and DDR memory chips not presently available in BGA packages.

John Carson, Irvine Sensors' President said, "Given the ever-present pressure to reduce the size of electronic products, we believe that there will be increasing demand for memory parts packaged in low-profile BGA forms. In fact, we have already received an order for limited production deliveries of such a part later this year. By starting with TSOPs and essentially shaving them down to size and then adding BGA attachments, we can meet that demand while taking advantage of the better economics of the more mature TSOP products. We also believe that this approach may offer an economic means to

implement our more advanced Neo-Stack™ products that will be needed for ‘systems in cubes.’ We have recently received our first U.S. patent on converting TSOPs to allow them to be stacked in alternate forms, and we are aggressively pursuing additional patent protection because of our belief in the significance of this new development.”

Based on its initial order, Irvine Sensors projects production availability of the first stacked low-profile BGA parts in the July – September quarter. Potential customers for low-profile or standard stacked BGA products can direct inquiries to [BGASStack@irvine-sensors.com](mailto:BGASStack@irvine-sensors.com). For information regarding Irvine Sensors’ stacked TSOP products, please direct inquiries to [TSOPStack@irvine-sensors.com](mailto:TSOPStack@irvine-sensors.com).

Irvine Sensors Corporation, headquartered in Costa Mesa, California, is primarily engaged in the sale of stacked chip assemblies and research and development related to high density electronics, miniaturized sensors and cameras, optical interconnection technology, high speed routers, image processing and low-power analog and mixed-signal integrated circuits for diverse systems applications.

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Micron is a registered trademark of Micron Technology, Inc.

**Safe Harbor Statement under the Private Securities Litigation Reform Act of 1995:** This news release may contain forward-looking statements based on our current expectations, estimates and projections about our industry, management's beliefs, and certain assumptions made by us. Words such as "anticipates," "expects," "projects", "intends," "plans," "believes," "seeks," "estimates," "may," "will" and variations of these words or similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to, our expectations regarding the market demand for our BGA parts and our ability to qualify, manufacture and respond to that demand. Such statements speak only as of the date hereof and are subject to change. We undertake no obligation to revise or update publicly any forward-looking statements for any reason. These statements are not guarantees of future performance and are subject to certain risks, uncertainties and assumptions that are difficult to predict. Therefore, our actual results could differ materially and adversely from those expressed in any forward-looking statements as a result of various factors.

Important factors that may cause such a difference include, but are not limited to, the timing and successful completion of technology and product development through volume production; the rate at which our present and future customers adopt our hybrid stacking approach; our ability to raise additional capital; our ability to negotiate appropriate strategic relationships; our ability to control costs and expenses; the potential unforeseen impact of product offerings from competitors; and general economic and political conditions and specific conditions in the markets we address, particularly as it might effect the status of our contract manufacturing sources. Further information on Irvine Sensors Corporation, including additional risk factors that may affect our forward looking statements, is contained in our Annual Report on Form 10-K, our Quarterly Reports on Form 10-Q, our Current Reports on Form 8-K and our other SEC filings that are available through the SEC's website ([www.sec.gov](http://www.sec.gov)).

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