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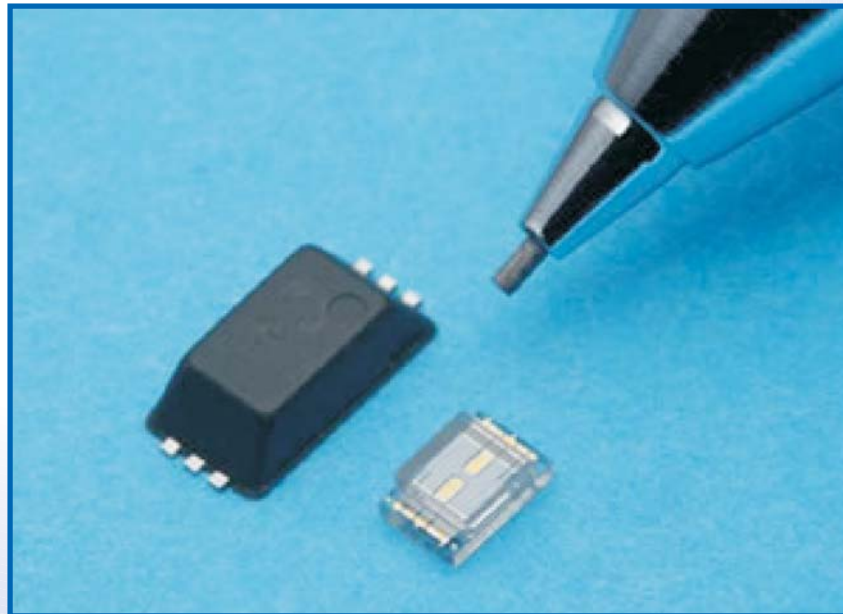
Sensing tomorrow™

OMRON

Jan - Mar 2006 issue

Ultra-compact Control MEMS

As devices in the measuring/communications market continue to shrink in size and transmit data at increasingly higher speeds in a shift to higher frequencies, the demand for the same characteristics grows more intense in the key components that comprise these devices. This demand has prompted research and development at OMRON that uses MEMS technology to downsize and accelerate relays, switches and other control devices. OMRON has applied its highly efficient actuator (EAGLE) and high-frequency, low-loss structure (HF structure) to develop the world's smallest Micro-Machined Relays. With superior high-speed characteristics (insertion loss: -0.5 dB at 2 GHz, isolation: -45 dB at 2 GHz) and virtually no deterioration of performance in switching tests of one million cycles, these relays are now on the verge of industrialization. Meanwhile, OMRON has launched research and development aimed at further reducing size and increasing transmission speed, which is revolutionizing the size and speed of relays.



Solutions

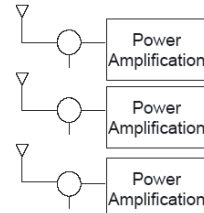
**Two Power Amplification are brought together in one Power Amplification.
 ⇒ The necessary condition is Low loss and Low Distortion.**

Problem

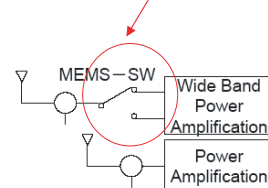
**Switch by semiconductor method is large loss of distortion.
 ⇒The Wide Band Amplification cannot be effectively used.**

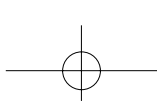


<Conventional Technology>



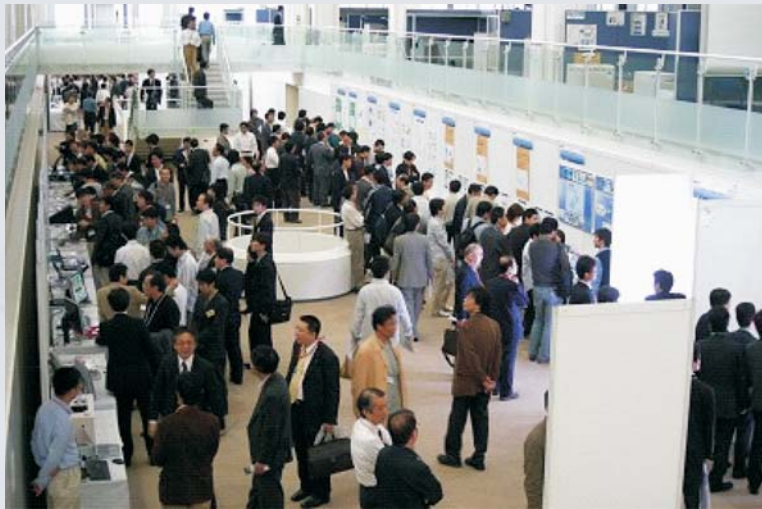
<MEMS Solution>





2005 Total Technology Fair Draws High Expectations for Technologies Driving Omron's Growth

On October 29, the '05 Total Technology Fair was held at Omron's Keihanna Technology Innovation Center. Held four years after the last fair, this year's exhibition was organized with the concept of "Sensing & Control technology for realizing the Optimization Society." The main objective of the event was to provide a forum for Omron Group employees to discuss the technologies that will drive the future growth of Omron. Omron has traditionally been committed to cultivating new social needs through technological breakthroughs.



The 2005 fair drew a total of 2,411 Omron Group employees. This was the largest turnout in the history of Omron's Total Technology Fair.



The fair site was divided into different zones that showcased new technologies and products currently being developed, as well as prototypes and demonstrations. The fair encouraged active discussions among Omron employees that extended beyond the boundaries of business companies and particular fields, stimulated new ideas about customer benefits and solutions that Omron technologies can offer.

Also included were presentations of focus technologies covering subjects such as the diverse technological competencies of each business company, the Research and Development Headquarters, and Omron Healthcare; development directions and future prospects; and programs aimed at improving technological strengths. Newly added to this year's fair were presentations focusing on specialized tasks. All presentation and seminar sites were very crowded, with standing-room-only in some sites and people watching from outside the room at other sites. The crowds reflected the great deal of attention and expectations that Omron employees have for our technologies.



Technology presentation sites were so crowded that many had to stand or even watch from outside the room

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