

## Monolithic GaAs surface acoustic wave chemical microsensor array

---

V.M. Hietala, S.A. Casalnuovo, E.J. Heller, J.R. Wendt, G.C. Frye-Mason and A.G. Baca.  
*"Monolithic GaAs surface acoustic wave chemical microsensor array."* 2000 MTT-S International Microwave Symposium Digest 00.3 (2000 Vol. III [MWSYM]): 1965-1968.

A four-channel surface acoustic wave (SAW) chemical sensor array with associated RF electronics is monolithically integrated onto one GaAs IC. The sensor operates at 690 MHz from an on-chip SAW based oscillator and provides simple DC voltage outputs by using integrated phase detectors. This sensor array represents a significant advance in microsensor technology offering miniaturization, increased chemical selectivity, simplified system assembly, improved sensitivity, and inherent temperature compensation.

 [Return to main document.](#)