

# Abstracts

## Novel MIC Bipolar Frequency Doublers Having High Gain, Wide Bandwidth and Good Spectral Performance (1991 Vol. I [MWSYM])

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*M. Borg and G.R. Branner. "Novel MIC Bipolar Frequency Doublers Having High Gain, Wide Bandwidth and Good Spectral Performance (1991 Vol. I [MWSYM])." 1991 MTT-S International Microwave Symposium Digest 91.1 (1991 Vol. I [MWSYM]): 269-272.*

New high efficiency Bipolar microwave frequency multipliers have been developed having wideband performance, high conversion gain and good spectral properties. Experimental conversion gains of up to 7 dB have been attained for narrow band designs ( $\Delta f/f_c = 12\%$  BW) and greater than 0dB for wide-band designs ( $\geq 40\%$ ) at C band. Corresponding fundamental and 3rd harmonic rejections are greater than 45 dBc and 30 dBc respectively. Extensive modeling and computer-oriented design has been employed utilizing harmonic balance.

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