486. Title:A broadband 900-GHz silicon micromachined two-anode frequency tripler
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Abstract:The design, fabrication, and measurement are presented for a 900-GHz frequency tripler with silicon micromachined blocks made using deep reactive ion etching. The broadband design results in more than 60 μW between 877.5922.5 GHz and the peak output power of 85.3 μW in the frequency response, all measured at room temperature. In power sweep measurement, the tripler delivers the maximum power of 109.3 μW at 909 GHz. This is the first demonstration of a frequency tripler using silicon micromachining at these frequencies and suggests that this technology is a viable option for receiver arrays in the terahertz frequency range.