

Calculated Performance of S.I.S. Junctions as Frequency Multipliers

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The harmonic balance technique is applied to examine the performance of SIS junctions as millimeter- and submillimeter-wave frequency multipliers. The effects of drive level, bias, embedding impedance, and junction parameters on harmonic generation are described. The calculations show that the output power is only a few nanowatts per junction, but that the efficiency is reasonable: in the range of 15-18% for realistic junction parameters.

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