

Silicon Bipolar MMIC for Frequency-Conversion Applications Up to 20 GHz

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A simple yet versatile silicon bipolar monolithic microwave integrated circuit (MMIC) is presented that can be utilized in a variety of frequency conversion applications. With an external feedback network the MMIC functions as a regenerative frequency divider for input signals up to 20GHz. It can also be used as an unbalanced active mixer with conversion gains up to 10dB at 10GHz. With an external resonator it functions as a self-oscillating mixer (SOM) with conversion gains up to 17dB at 5GHz.

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