GaAs Integrated Circuits from the MIMIC Program

TRW

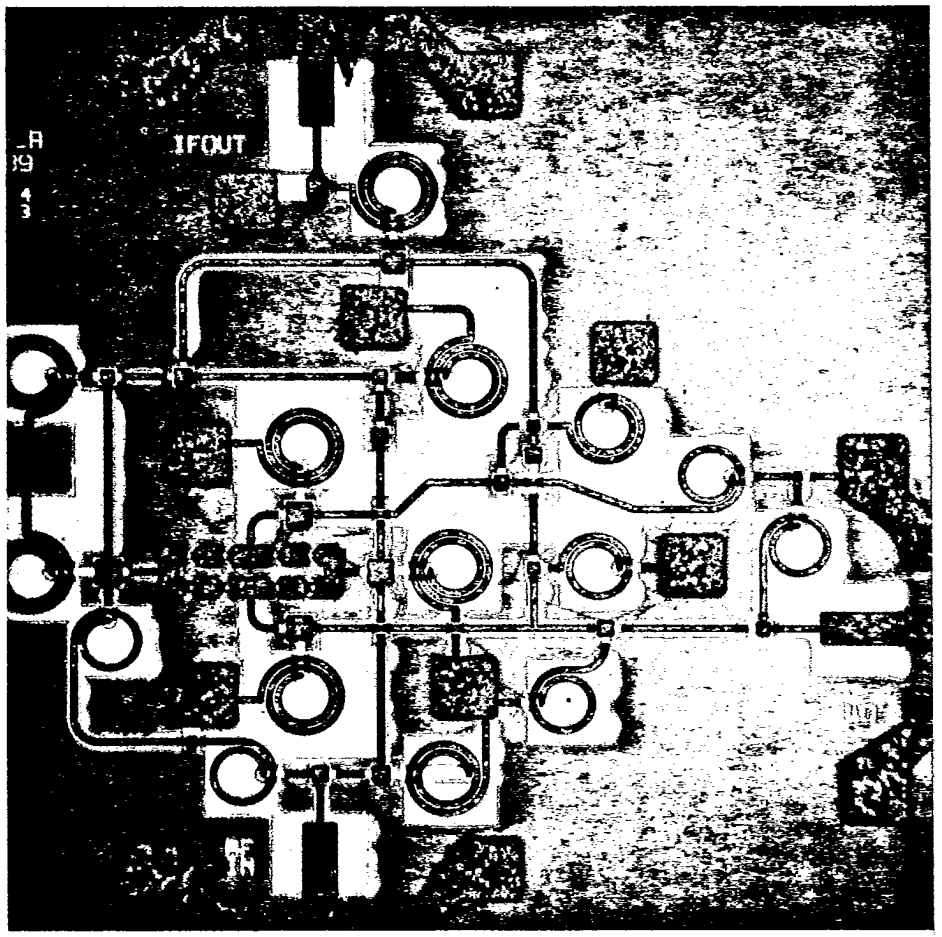
Preliminary

6 GHz - 10 GHz Diode Mixer

Model I-M13

Microwave and millimeter-wave system designers: TRW GaAs integrated circuits become available in 1990.

Our fast-growing family of monolithic microwave/millimeter-wave integrated circuits (MMIC), is ideal for a wide range of applications in space communications, smart munitions, and avionics and electronic combat systems.



6 GHz - 10 GHz Diode Mixer I-M13E 234364-89

TRW MMIC chips offer

- High performance across a broad range of frequencies
- Greater reliability than the hybrids they replace
- Reduced size and weight, leading to smaller, lighter components
- Lower cost, achieved through volume production

Description

- Broadband, double-balanced mixer configuration
- Four-diode mixer with passive baluns

Chip Data

- Technology: 0.5-micron MESFET
- Chip size: 2.1mm x 2.7mm
- Self-biased

Ambient Performance

- Frequency range: 6 GHz to 10 GHz
- LO frequency: 10.9 GHz to 15.3 GHz
- IF: 3.9 GHz to 6 GHz
- Input/output VSWR: 2.0:1
- LO power drive: 15 dBm to 20 dBm
- Port-to-port isolation: >20 dB
- Conversion loss: 8-10 dB
- Output P1 dB: 5 dBm

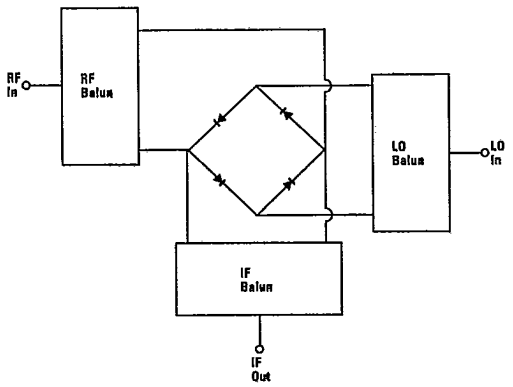
Applications

- Broadband general-purpose down-converters

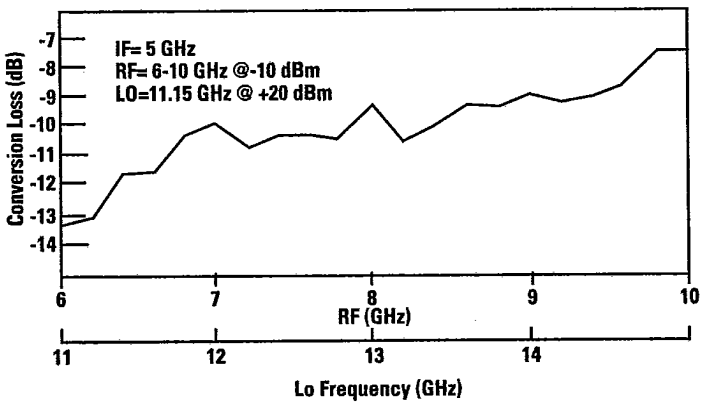
T-74-13-01

TRW MMIC Devices are marketed and distributed exclusively by:

FEI Microwave, Inc.
A SUBSIDIARY OF FREQUENCY ELECTRONICS INC
825 Stewart Drive, Sunnyvale, CA 94086
Tel: (408) 732-0880 FAX: (408) 730-1622



Simplified schematic of MMIC 6 GHz - 10 GHz diode mixer



Conversion loss (dB) vs. RF/LO frequency (GHz)

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For further information please contact :

MIMIC Product Marketing
TRW Electronics & Technology Division
Electronic Systems Group
One Space Park
Redondo Beach, CA 90278
213.814.1602

TRW reserves the right to change products and specifications without notice.