LX5506M

InGaP HBT 4.5 – 6GHz Power Amplifier

PRODUCTION DATA SHEET

DESCRIPTION

The LX5506M is a power amplifier optimized for the FCC Unlicensed National Information Infrastructure (U-NII) band, HyperLAN2 and Japan WLAN applications in the 4.9-5.9 GHz frequency range. The PA is implemented as a three-stage monolithic microwave integrated circuit (MMIC) with active bias, on-chip input matching and output pre-matching. The device is manufactured with an InGaP/GaAs Heterojunction Bipolar Transistor (HBT) IC process (MOCVD). It operates with a single positive voltage supply of 3.3V (nominal), with up to +22dBm linear output power for 802.11a OFDM spectrum mask compliance, and low EVM of -30dB for up to +18dBm output power in the 4.9-5.9GHz band.

LX5506M features high gain of up to 30dB with low quiescent current of 90mA, and high power added efficiency of up to 20% at maximum linear output power for OFDM mask compliance. It also features an on-chip output power detector to help reduce BOM cost and board space in system implementation. The on-chip detector allows simple interface with an external directional coupler, providing accurate output power level readings insensitive to frequency, temperature, and load VSWR.

LX5506M is available in a 16-pin 3mmx3mm micro-lead package (MLP). The compact footprint, low profile, and excellent thermal capability of the MLP package makes LX5506M an ideal solution for broadband, high-gain power amplifier requirements for IEEE 802.11a, and Hiperlan2 portable WLAN applications.

IMPORTANT: For the most current data, consult *MICROSEMI*'s website: **http://www.microsemi.com**

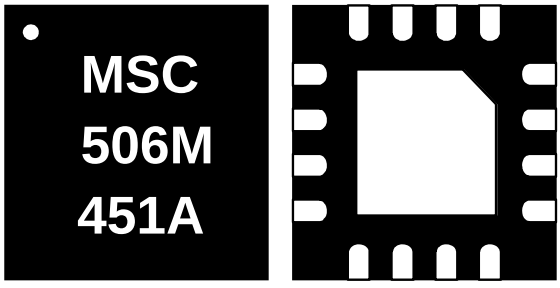
KEY FEATURES

- Broadband 4.9-5.9GHz Operation
- Advanced InGaP HBT
- Single-Polarity 3.3V Supply
- Power Gain ~ 30dB at 5.25GHz
- Power Gain > ~28dB across 4.9-5.9GHz
- EVM ~ -30dB at Pout=+17dBm at 5.25GHz
- EVM ~ -30dB at Pout=+18dBm at 5.85GHz
- Total Current ~140mA for Pout= +17dBm at 5.25GHz (For High Duty Cycle of 90%)
- Maximum Linear Power ~ +22dBm for OFDM Mask Compliance
- Maximum Linear Efficiency ~ 20%
- On-chip Output Power Detector with Improved Frequency and Load-VSWR Insensitivity
- On-Chip Input Match
- On-Chip RF Decoupling
- Simple Output Match for Optimal Broadband EVM
- Small Footprint: 3x3mm^2
- Low Profile: 0.9mm

APPLICATIONS

- FCC U-NII Wireless
- IEEE 802.11a
- HiperLAN2
- 5GHz Cordless Phone

PRODUCT HIGHLIGHT



PACKAGE ORDER INFO

LQ	**Plastic MLPQ** **16 pin** RoHS Compliant / Pb-free
LX5506MLQ	

Note: Available in Tape & Reel. Append the letters "TR" to the part number. (i.e. LX5506MLQ-TR)

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INFORMATION

Thank you for your interest in Microsemi® Analog Mixed Signal products.

The full data sheet for this device contains proprietary information.

To obtain a copy, please contact your local Microsemi sales representative. The name of your local representative can be obtained at the following link
http://www.microsemi.com/contact/contactfind.asp

or

Contact us directly by sending an email to:
IPGdatasheets@microsemi.com
Be sure to specify the data sheet you are requesting and include your company name and contact information and or vcard.

We look forward to hearing from you.

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