English



# BGA6130

400 MHz to 2700 MHz 1 W high efficiency silicon amplifier

The BGA6130 MMIC is a one-stage amplifier, offered in a low-cost leadless surface-mount package. At 3.6 V it delivers 29.5 dBm output power at 3 dB gain compression with efficiency higher than 55 %. Its power saving features include simple quiescent current adjustment, which allows class-AB operation and logic-level shutdown control to reduce the supply current to 4 µA.

## Features and benefits

- 400 MHz to 2700 MHz frequency operating range
- Integrated active biasing
- External matching allows broad application optimization
- Efficiencies higher than 55 %
- 3.6 V single supply operation
- Power-down
- Excellent robustness

## Applications

- Broadband CPE / MoCA
- WLAN / ISM / RFID
- Wireless Sensor Networks
- Industrial applications
- Satellite Master Antenna TV (SMATV)

- **Parametric search** all Medium power amplifiers

All information on this product information page is subject to the subsequent disclaimers:
- General product disclaimer
- Quality and reliability disclaimer

## Parametrics of this product

| Symbol | Parameter | Conditions | Min | Typ/Nom | Max | Unit |
|---|---|---|---|---|---|---|
| **Static characteristics** | | | | | | |
| $I_{SUP}$ | supply current | $V_{SUP}$ = 8 V | 50 | 70 | 90 | mA |
| $V_{SUP}$ | supply voltage | | 3.3 | 3.6 | 3.9 | V |
| $f_{range}$ | frequency range | | 400 | | 2700 | MHz |
| **RF Characteristics** | | | | | | |
| $G_p$ | power gain | f = 434 MHz; $V_{SUP}$ = 3.6 V | 14 | 17 | 20 | dB |
| $G_p$ | power gain | f = 915 MHz; $V_{SUP}$ = 3.6 V | 11 | 14 | 17 | dB |
| $P_{L(1dB)}$ | output power at 1 dB gain compression | f = 434 MHz; $I_{SUP}$ = 70 mA; $V_{SUP}$ = 3.6 V | 25 | 28 | | dBm |
| $P_{L(1dB)}$ | output power at 1 dB gain compression | f = 915 MHz; $I_{SUP}$ = 70 mA; $V_{SUP}$ = 3.6 V | 26 | 29 | | dBm |
| NF | noise figure | f = 434 MHz | | 4.5 | | dB |
| NF | noise figure | f = 915 MHz | | 4 | | dB |
| η | efficiency | f = 434 MHz | | 56 | | % |
| η | efficiency | f = 915 MHz | | 60 | | % |

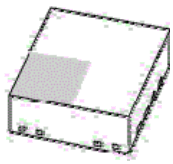
## Similar products

- **Parametric search** all Medium power amplifiers
- **Parametrics** series

## Products / Packages

| Type number | Orderable part number | Ordering code (12NC) | Product status | Package | Packing | Marking |
|---|---|---|---|---|---|---|
| BGA6130 | BGA6130,118 | 9352 948 92118 | Development | SOT908-3 (HVSON8) | Reel Pack, SMD, 13" | Standard Marking |

## Pinning information

| Pin | Symbol | Description | Simplified outline | Graphic symbol |
|---|---|---|---|---|
| 1 | n.c. | not connected |  |  |
| 2 | RF_OUT | radio frequency output | | |
| 3 | RF_OUT | radio frequency output | | |
| 4 | n.c. | not connected | | |
| 5 | $V_{CC}$ | bias supply voltage | | |
| 6 | ENABLE | enable | | |
| 7 | RF_IN | radio frequency input | | |
| 8 | ICQ_ADJ | quiescent collector current adjustment by an external resistor | | |
| | GND | exposed die pad | | |

## Quality, reliability & chemical content

| Type number | Orderable part number | Chemical content | RoHS | Leadfree conversion date | RHF | IFR (FIT) | MTBF (hours) | MSL | MSL LF |
|---|---|---|---|---|---|---|---|---|---|
| BGA6130 | BGA6130,118 | BGA6130 | EU/CN RoHs COMPLIANT | Always Pb-free | D | | | 1 | 1 |

Quality and reliability disclaimer

## Documentation for this product

| Type | Format | Title | Date |
|---|---|---|---|
| Selection guide | pdf | NXP's RF Manual 15th edition (v.1.0) | 2011-05-19 |

## Ordering & availability

| Type number | Ordering code(12NC) | Orderable part number | Region | Distributor | In stock | Order quantity | Inventory date | Buy online | Samples |
|---|---|---|---|---|---|---|---|---|---|
| BGA6130 | 9352 948 92118 | BGA6130,118 | | | | | | | not available |

**Sample**
Sample orders normally take 2-4 days for delivery.
If you do not have a direct account with NXP our network of global and regional distributors is available and equipped to support you with NXP samples. As a NXP customer you also have the option to order samples via our sales organisation.

## Demo boards



OM7828
BGA6130 medium power amplifier evaluation kit

## Technical support

Do you want to ask technical questions to an NXP expert?
Please select one of the following options:

- Use our e-mail form to ask a question
- Find answers in our technical support site.