



# 2.4 GHz High-Power, High-Gain Power Amplifier

## SST12LP18E

### Product Brief

The SST12LP18E is a versatile power amplifier based on the highly-reliable InGaP/GaAs HBT technology. The SST12LP18E is a 2.4 GHz high-efficiency Power Amplifier designed in compliance with IEEE 802.11b/g/n applications. It typically provides 25 dB gain with 32% power-added efficiency. The SST12LP18E has excellent linearity while meeting 802.11g spectrum mask at 21.5 dBm. The SST12LP18E is ideal for embedded applications because it provides linear power even at low-battery voltages. With a reference voltage as low as 2.7V, the SST12LP18E will operate from -20°C to +85°C and is offered in a 8-contact XSON package.

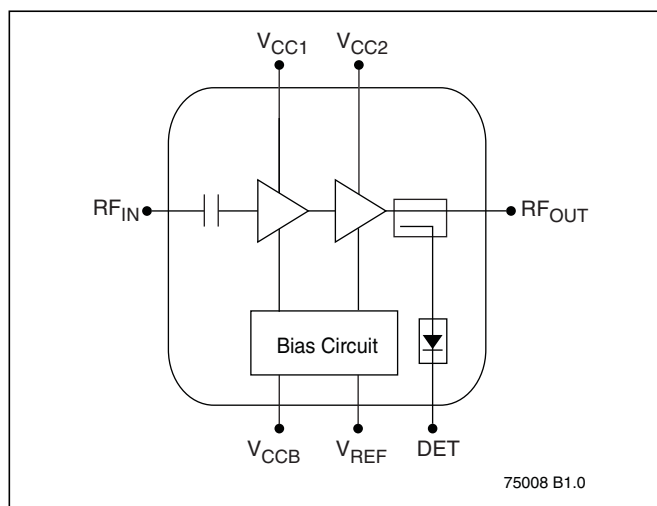
## Features

- **High gain:**
  - Typically 25 dB gain across 2.4~2.5 GHz
  - Low battery voltage operation:  $V_{REF}$  as low as 2.7V.
- **High linear output power (at 3.3V):**
  - >26 dBm P1dB
  - ~2.5% added EVM up to 18 dBm for 54 Mbps 802.11g signal
  - Meets 802.11g OFDM ACPR requirement up to 21.5 dBm
  - Meets 802.11b ACPR requirement up to 22.5 dBm
- **High power-added efficiency/Low operating current for both 802.11b/g/n applications**
  - ~32% @  $P_{OUT} = 21.5$  dBm for 802.11g
  - ~36% @  $P_{OUT} = 22.5$  dBm for 802.11b
- **Low shut-down current (~2  $\mu$ A)**
- **Low Voltage operation down to 2.7V bias.**
- **Limited variation over temperature**
  - ~1 dB power variation between -40°C to +85°C
  - ~2 dB gain variation between -40°C to +85°C
- **Temperature and load insensitive on-chip power detector**
  - >15 dB dynamic range
- **Packages available**
  - 8-contact XSON – 2mm x 2mm x 0.45mm
- **All non-Pb (lead-free) devices are RoHS compliant**

## Applications

- WLAN (IEEE 802.11b/g/n) DS75008
- Home RF
- Cordless phones
- 2.4 GHz ISM wireless equipment

## Block Diagram



## Product Ordering

### Valid combinations for SST12LP18E

SST12LP18E-QX8E

### SST12LP18E Evaluation Kits

SST12LP18E-QX8E-K

**Note:** Valid combinations are those products in mass production or will be in mass production. Consult your SST sales representative to confirm availability of valid combinations and to determine availability of new combinations.



A Microchip Technology Company

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### Contact Information

Thank you for your interest in Microchip RF products. The data sheet for this device contains proprietary information. To obtain a copy of the data sheet, contact your local Microchip sales representative or distributor at the link below.

#### Global Sales and Distribution

**Table 1:**Revision History

Revision	Description	Date
A	• Initial release of Product Brief	May 2011

ISBN:978-1-61341-199-5

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Specifications are subject to change without notice. Refer to [www.microchip.com](http://www.microchip.com) for the most recent documentation. For the most current package drawings, please see the Packaging Specification located at <http://www.microchip.com/packaging>.

Memory sizes denote raw storage capacity; actual usable capacity may be less.

SST makes no warranty for the use of its products other than those expressly contained in the Standard Terms and Conditions of Sale.

For sales office(s) location and information, please see [www.microchip.com](http://www.microchip.com).

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