

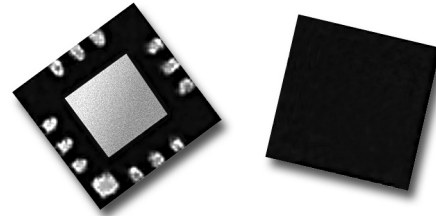
**ADVANCED DATA SHEET**

# SKY65006: 3.3 V, 2.5 GHz Linear Power Amplifier

## Features

- IEEE 802.11b/g
- 2.4–2.5 GHz operation
- 30 dB small signal gain
- 17 dBm linear power @ 3.5% EVM
- On chip harmonic filter
- Uses single DC bias supply
- Available on tape & reel

## QFN-12 3 x 3 x 0.75 mm (1.45 mm Paddle)



## Description

The SKY65006 is a linear high gain, medium power amplifier with integrated output filter. This InGaP HBT PA with on chip filter eliminates the need for additional filters in the transmit chain. It is designed for power amplifier applications in WLAN and spread spectrum use from 2.4—2.5 GHz. The amplifier is packaged in a QFN 3 x 3 mm package.

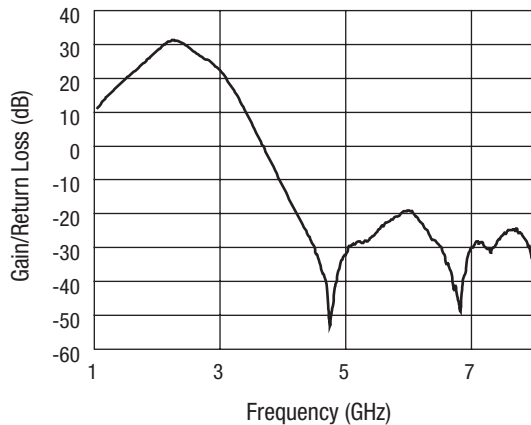
## Absolute Maximum Ratings

Characteristic	Value
RF input power	10 dBm
Supply current	300 mA
Supply voltage	5 V
Storage temperature	-65 °C to +85 °C
Operating temperature	-40 °C to +85 °C

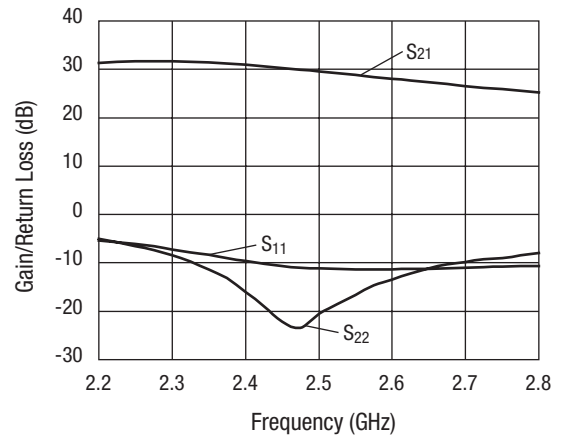
## Electrical Specifications at 25 °C

Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit
Frequency range			2.4		2.5	GHz
Small signal gain	$I_C = 110 \text{ mA}$	Ga		30		dB
Max. saturated output power		$P_{MAX}$		25		dBm
Max. linear output power	Modulation 54 Mbps meeting 802.11g Spectral mask @ 3.5% EVM			17		dBm
Input and output VSWR	$F = 2.4\text{--}2.5 \text{ GHz}$	VSWR		2.0 :1		
Operating voltage	Amplifier DC voltage	$V_{CC}$		+3.3		V
Reverse isolation			-40			dB
Current consumption	$P_{OUT} = 24 \text{ dBm } P_1 \text{ dB}$	$I_{CC}$		170		mA
	$P_{OUT} = 17 \text{ dBm } 11 \text{ g}$	$I_{CC}$		110		mA
	Quiescent	$I_Q$		65		mA

Typical Performance Data (0, +3 V)



S<sub>21</sub> Small Signal Response

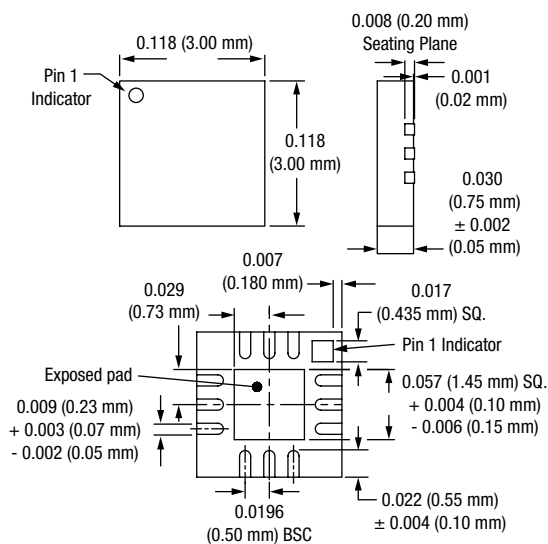


Small Signal Response

802.11g 54Mbit/sec

Freq	Mod	P Start	V <sub>CC</sub> (4)	V <sub>REG</sub> (3)	Power In	EVM	P <sub>OUT</sub>	PAE	Gain	V <sub>DET</sub>	I V <sub>CC</sub> (4)	I V <sub>REG</sub> (3)	Mask
2450.00	54g	-10	3.0	3.10	-13.26	2.95	16.25	0.142	29.50	0.390	0.094	0.005	PASS
2484.00	54g	-10	3.0	3.10	-13.20	2.92	15.97	0.137	29.17	0.417	0.091	0.005	PASS
2412.00	54g	-10	3.3	3.10	-13.28	2.96	16.42	0.131	29.71	0.375	0.096	0.005	PASS
2450.00	54g	-10	3.3	3.10	-13.01	2.93	16.75	0.136	29.77	0.432	0.100	0.005	PASS
2484.00	54g	-10	3.3	3.10	-12.77	2.94	16.64	0.135	29.41	0.476	0.098	0.005	PASS
2450.00	54g	-10	3.6	3.10	-13.01	3.08	16.98	0.126	29.99	0.452	0.105	0.005	PASS
2484.00	54g	-10	3.6	3.10	-12.84	2.98	16.82	0.124	29.65	0.494	0.102	0.005	PASS
2412.00	54g	-10	3.0	3.10	-12.62	3.60	16.76	0.156	29.37	0.399	0.096	0.005	PASS
2450.00	54g	-10	3.0	3.10	-12.57	3.60	16.86	0.156	29.43	0.439	0.098	0.005	PASS
2412.00	54g	-10	3.3	3.10	-12.17	3.56	17.47	0.155	29.63	0.460	0.104	0.005	PASS
2450.00	54g	-10	3.3	3.10	-12.03	3.63	17.67	0.158	29.70	0.514	0.107	0.005	PASS
2484.00	54g	-10	3.3	3.10	-12.02	3.62	17.35	0.152	29.37	0.543	0.103	0.005	PASS

QFN-12 3 x 3 x 0.75 mm (1.45 mm Paddle)



Pin Out

