



Quick Reference Guide

Using the AGB3306 as a Replacement for the NGA-386

The AGB3306 InGaP HBT Gain Block from ANADIGICS is a wideband device with high linearity, low noise and low distortion that can be used as a replacement for the NGA-386 device from Sirenza Microdevices. Both offered in convenient surface mount packages, the two devices have comparable performance metrics and application circuits:

NGA-386 ELECTRICAL CHARACTERISTICS

PARAMETER	FREQUENCY	VALUE
Gain	850 MHz	20.9 dB
	1950 MHz	18.9 dB
Output IP3	850 MHz	+25.8 dBm
	1950 MHz	+27.0 dBm
Output P1dB	1950 MHz	+15.0 dB
Noise Figure	2000 MHz	2.7 dB
Device Current		35 mA

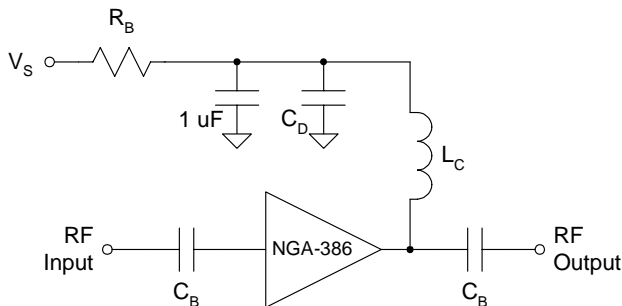
Test Conditions: $V_s = +8V$, $R_B = 120\Omega$ for 35mA current, Ambient Temperature = +25°C, 50Ω system.

AGB3306 ELECTRICAL CHARACTERISTICS

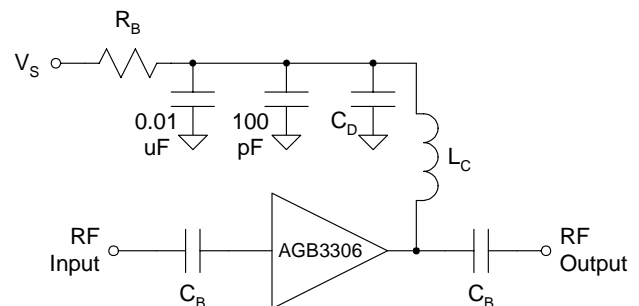
PARAMETER	FREQUENCY	VALUE
Gain	850 MHz	20.8 dB
	1950 MHz	18.7 dB
Output IP3	850 MHz	+27.5 dBm
	1950 MHz	+27.4 dBm
Output P1dB	1950 MHz	+14.6 dB
Noise Figure	850 MHz	4.5 dB
Device Current		33 mA

Test Conditions: $V_s = +8V$, $R_B = 120\Omega$ for 33mA current, Ambient Temperature = +25°C, 50Ω system.

NGA-386 APPLICATION CIRCUIT



AGB3306 APPLICATION CIRCUIT



NGA-386 COMPONENT	FREQUENCY	
	850 MHz	1950 MHz
C_B	100 pF	68 pF
C_D	68 pF	22 pF
L_C	33 nH	22 nH

AGB3306 COMPONENT	FREQUENCY	
	850 MHz	1950 MHz
C_B	0.01 uF	0.01 uF
C_D	10 pF	10 pF
L_C	100 nH	100 nH

Recommended Bias Resistor Values for 35mA Current on NGA-386				
V_s	+5 V	+8 V	+9 V	+12 V
R_B	30 Ω	120 Ω	150 Ω	240 Ω

Recommended Bias Resistor Values for 33mA Current on AGB3306				
V_s	+5 V	+8 V	+9 V	+12 V
R_B	30 Ω	120 Ω	150 Ω	240 Ω

The information contained herein is presented for reference only. Actual performance of the AGB3306 device is detailed in the product data sheet. NGA-386 device performance is extracted from Rev C of the product data sheet.