



Quick Reference Guide

Using the AGB3302 as a Replacement for the NGA-489

The AGB3302 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-489 device from Sirenza Microdevices. Both offered in convenient SOT-89 surface mount packages, the two devices have comparable performance metrics and application circuits:

NGA-489 ELECTRICAL CHARACTERISTICS

PARAMETER	FREQUENCY	VALUE
Gain	850 MHz	15.0 dB
	1950 MHz	14.5 dB
Output IP3	850 MHz	+38 dBm
	1950 MHz	+37 dBm
Output P1dB	1950 MHz	+17.0 dB
Noise Figure	850 MHz	4.1 dB
Device Current		65 mA

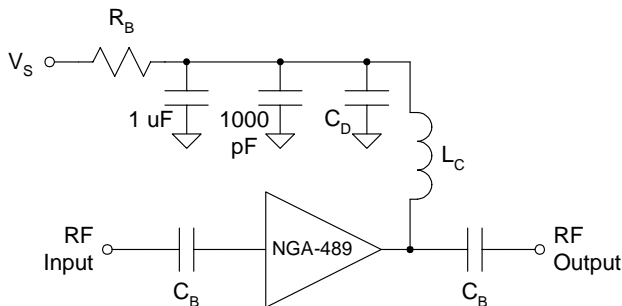
Test Conditions: $V_s = +8V$, $R_B = 62\Omega$ for 65mA current, Ambient Temperature = +25°C, 50Ω system.

AGB3302 ELECTRICAL CHARACTERISTICS

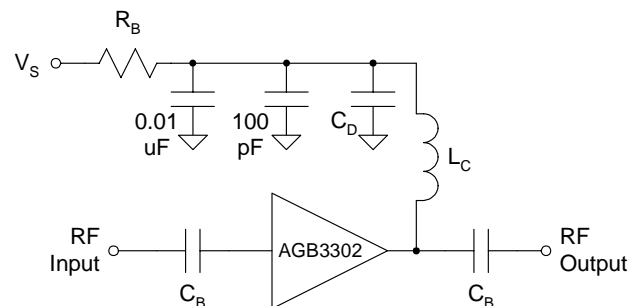
PARAMETER	FREQUENCY	VALUE
Gain	850 MHz	15.8 dB
	1950 MHz	15.0 dB
Output IP3	850 MHz	+36 dBm
	1950 MHz	+36 dBm
Output P1dB	1950 MHz	+17.6 dB
Noise Figure	850 MHz	4.4 dB
Device Current		65 mA

Test Conditions: $V_s = +8V$, $R_B = 38\Omega$ for 65mA current, Ambient Temperature = +25°C, 50Ω system.

NGA-489 APPLICATION CIRCUIT



AGB3302 APPLICATION CIRCUIT



NGA-489 COMPONENT	FREQUENCY	
	850 MHz	1950 MHz
C_B	100 pF	68 pF
C_D	68 pF	22 pF
L_C	33 nH	22 nH

AGB3302 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 65mA Current on NGA-649			
V_s	+8 V	+10 V	+12 V
R_B	62 Ω	91 Ω	120 Ω

Recommended Bias Resistor Values for 65mA Current on AGB3302			
V_s	+8 V	+10 V	+12 V
R_B	38 Ω	69 Ω	100 Ω

The information contained herein is presented for reference only. Actual performance of the AGB3302 device is detailed in the product data sheet. NGA-489 device performance is extracted from Rev E of the product data sheet.