

**Features: (typical values)**

- Output Power .....+37 dbm. @ 1dB. Compression
- NF ..... 3.0 dB
- Gain ..... 21.5dB
- IP3 ..... 54dBm
- IP2 ..... 97dBm
- Unconditional Stability
- No external components required

**5 – 35 MHz  
High Linear Amplifier**

**Maximum Ratings**

- Storage temperature ..... -55°C to +125°C  
 DC Operating Voltage ..... +26.0 volts  
 RF Input Signal ..... +20 dBm. Max.  
 Operating Base Temp. .... -20 to +75°C

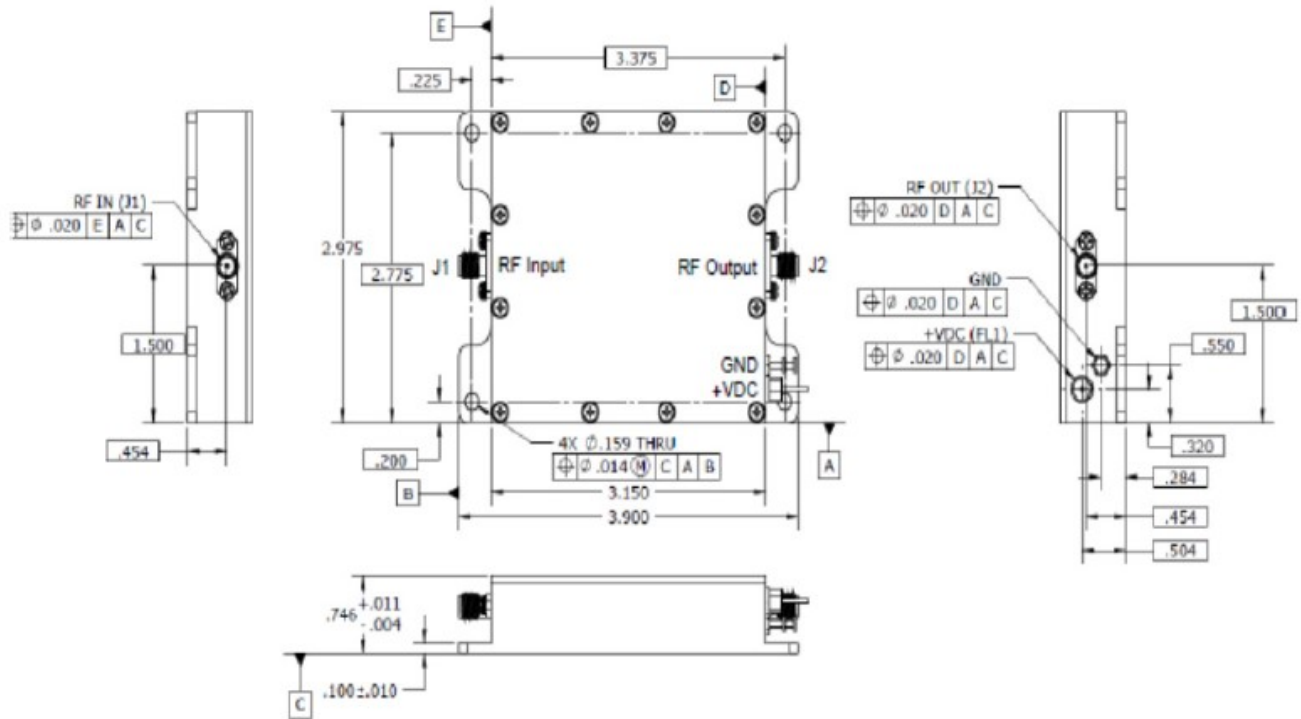
**Product Description:**

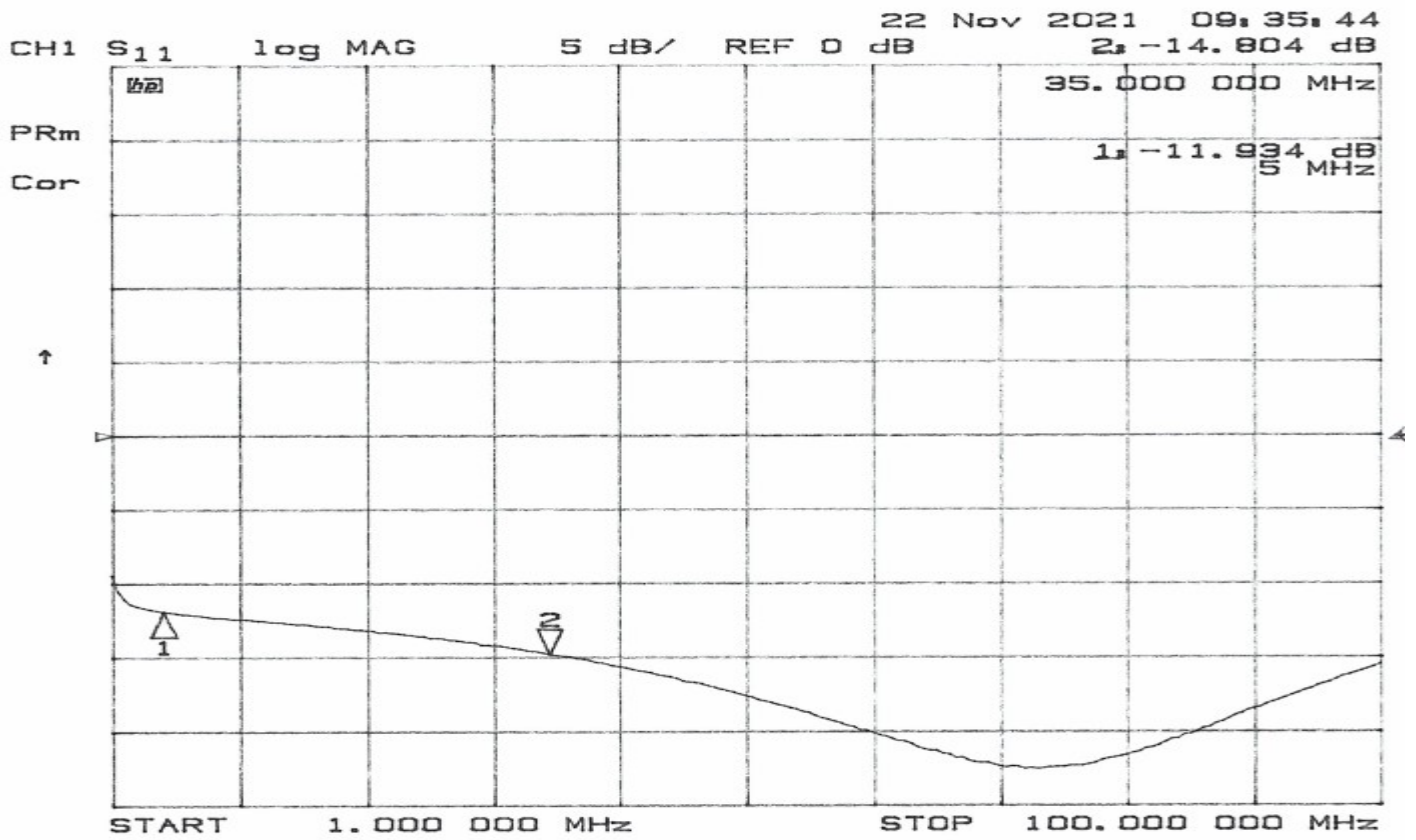
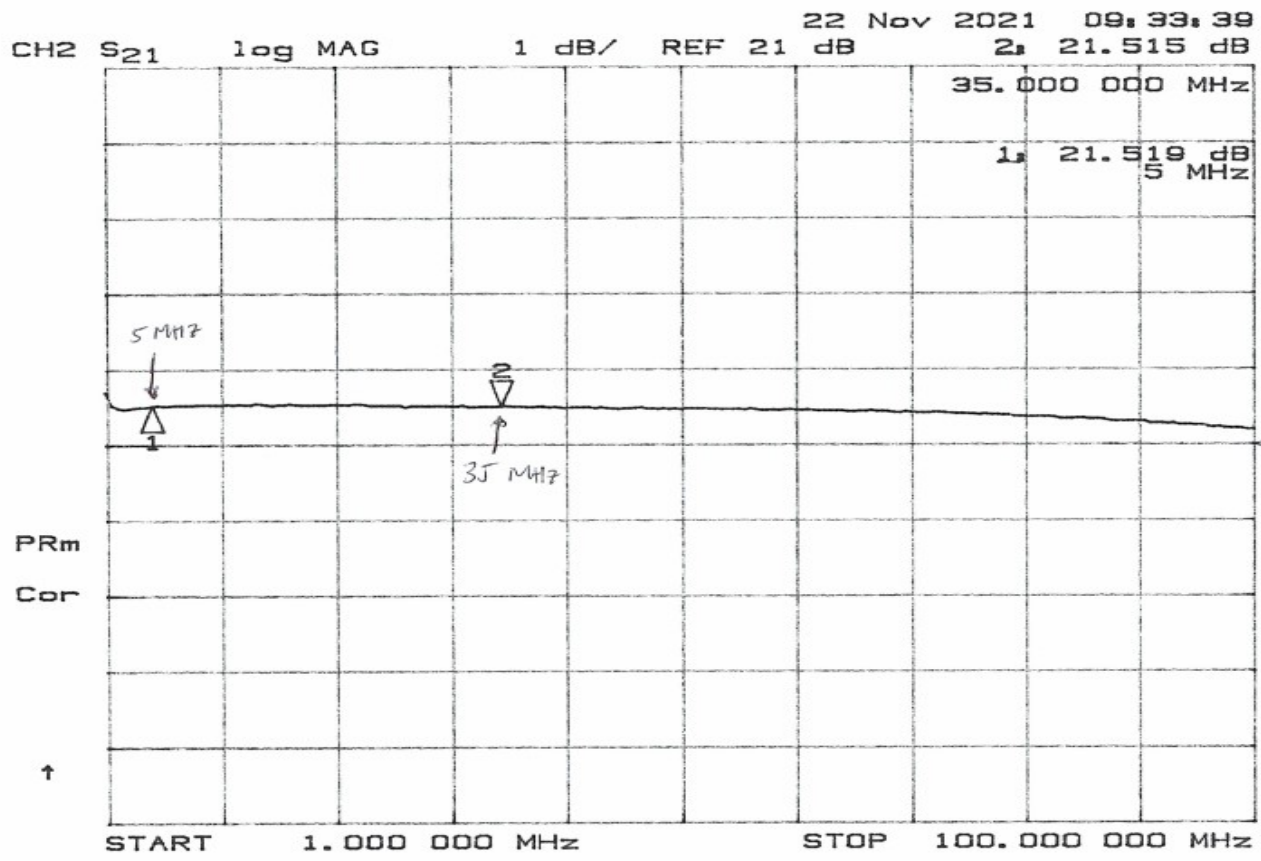
ASC3090C is a Push-Pull configure of two Power Doubler modules. It contains GaAs pHEMT die driving GaN die and is operating from 5MHz to 35MHz, can also extend from 1MHz to 100Mhz. It has excellent linearity with very low Noise Figure and optimal reliability.

Specifications @ Tcase = 25°C, Vcc = 24V, 50-ohm systems unless otherwise noted.

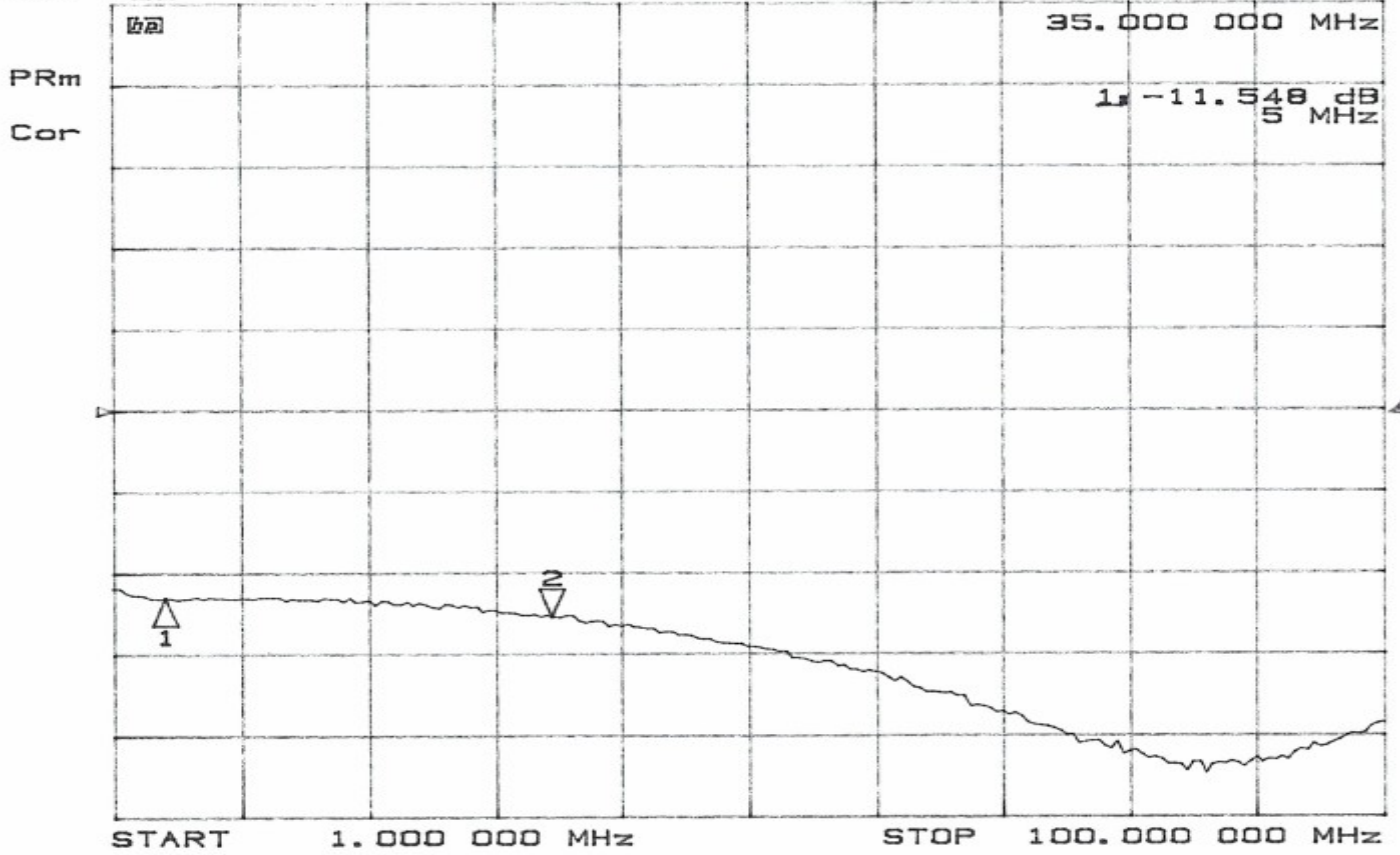
Parameter	Typical Conditions	Min Value	Max Value	Units
Frequency Range		5	35	MHz.
Power Gain	21.5	20.5	23	dB.
Gain Flatness	±0.1		±0.5	dB.
Reverse Isolation	28	26		dB.
Noise Figure	3.0		3.5	dB.
Power Output- 1dB Compression	37	35		dBm.
Third Order Intercept (IP3) @ 25dbm per tone	54	52		dBm.
Second Order Intercept (IP2) @ 25dbm per tone	97	92		dBm.
VSWR in/out	1.7:1		2.0:1	Ratio
Supply Current @ 24 Volts	860		900	mA.
Operating Temperature -20C to +75C				
CONNECTORS	SMA-F			

**Outline Drawing**  
(For Reference Only)





CH1 S22 log MAG 5 dB/ REF 0 dB 22 Nov 2021 09:37:20  
2 -12.869 dB





**FINAL ELECTRICAL TEST REQUIREMENTS**

TEST V <sub>dc</sub> +24V	LIMITS T <sub>c</sub> = 25° C	ACTUAL VALUE
Gain 5 to 35 MHz	20.5 dB min	21.4 min
Gain Flatness 5 to 35 MHz	± 0.5 dB max	± 0.05 max
Gain Variation Over Temp. 5 to 35 MHz	0.7 dB typ	/
DC Current at +24 Vdc	900 mA max	860 mA max
Input VSWR 5 to 35 MHz	2.0 : 1 max	1.67 max
Output VSWR 5 to 35 MHz	2.0 : 1 max	1.72 max
Noise Figure 5 to 35 MHz	3.5 dB max	3.0 max
P 1.0 dB Compression 5 to 35 MHz	35 dBm min	37.0 max
IP3 with P <sub>out</sub> = +25.0 dBm each tone 1) F1/F2 = 7/8 MHz      Fc = 6/9 MHz 2) F1/F2 = 17/18 MHz    Fc = 16/19 MHz 3) F1/F2 = 33/34 MHz    Fc = 32/35 MHz	52.0 dBm min	54.0 min 54.0 min 54.0 min
IP2 with P <sub>out</sub> = +25.0 dBm each tone 1) F1 + F2 = 6+29    Fc = 35 MHz 2) F1 - F2 = 34-29    Fc = 5 MHz	90.0 dBm min	97.0 min 97.0 min
Stability Test : For all frequencies Where  S <sub>21</sub>   > 0dB	0 dB max	<0

**FUNCTIONAL BLOCK DIAGRAM**

