AMPLIFIER SOLUTIONS CORPORATION

ASC3086C

Features: (typical values)

- Output Power ……..…+35 dbm. @ 1dB. Compression
- NF …… 2.7 dB
- Gain ……... 22dB
- Unconditional Stability
- No external components required

2 – 250 MHz
Power Amplifier (3W)

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:

ASC3068C is a Power Doubler SMD module. It contains GaAs pHEMT die driving GaN die and is operating from 2MHz to 250MHz. 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		2	250	MHz.
Power Gain	22	21	23	dB.
Gain Flatness 2MHz to 250MHz	±0.2		±0.5	dB.
Reverse Isolation	28	26		dB.
Noise Figure	2.7		3.5	dB.
Power Output- 1dB Compression	35	33		dBm.
Third Order Intercept (IP3) @ 20dbm per tone	50	49		dBm.
Second Order Intercept (IP2) @ 20dbm per tone	83	80		dBm.
VSWR in/out 5MHz to 250MHz	1.7:1		2.0:1	Ratio
Supply Current @ 24 Volts	432		450	mA.
Operating Temperature -20C to +75C				
CONNECTORS	SMA-F			

3009 Old State Rd, Telford, PA 18969 Phone: 215-799-2561 Fax: 215-799-2563
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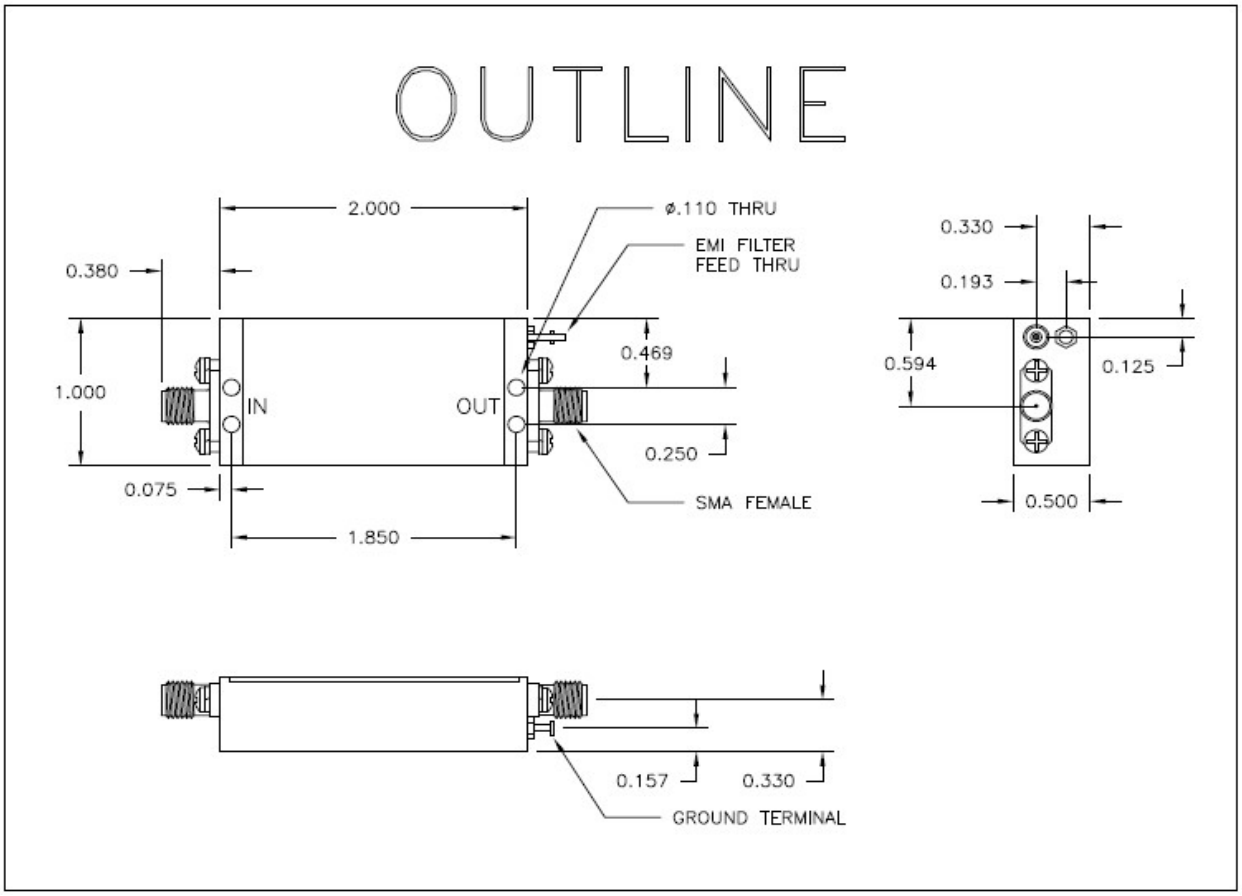

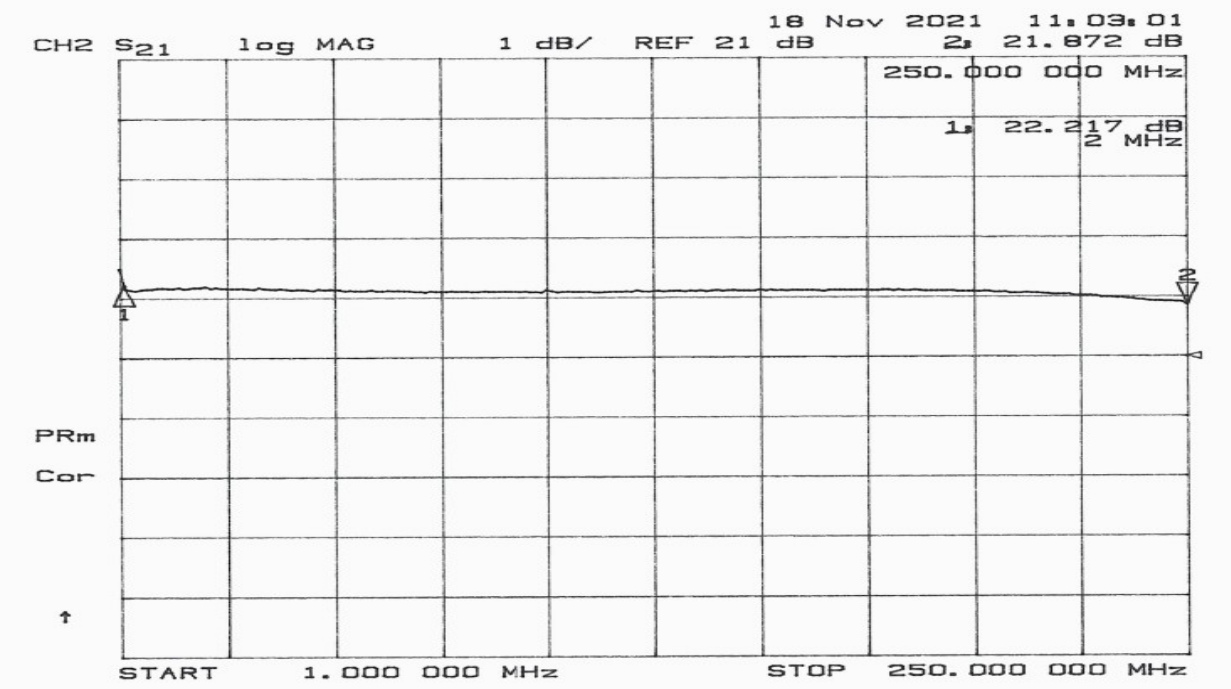

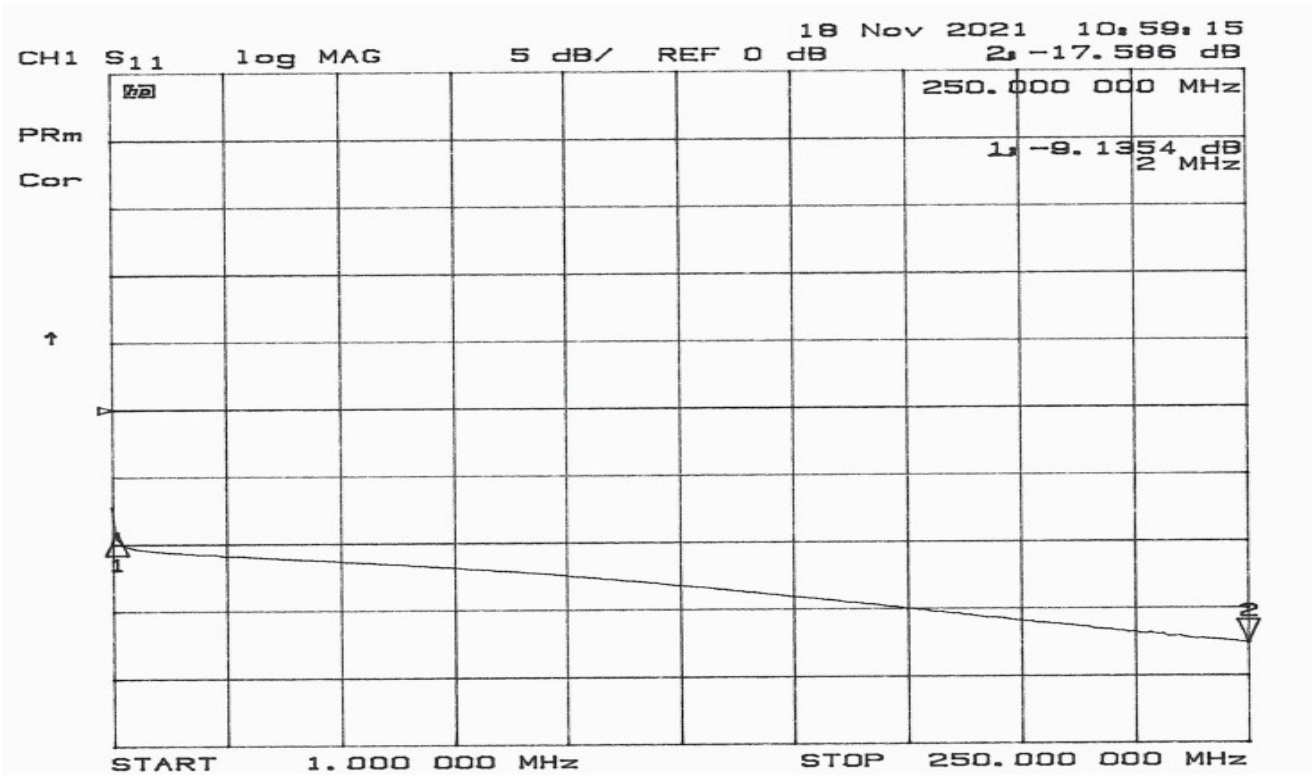
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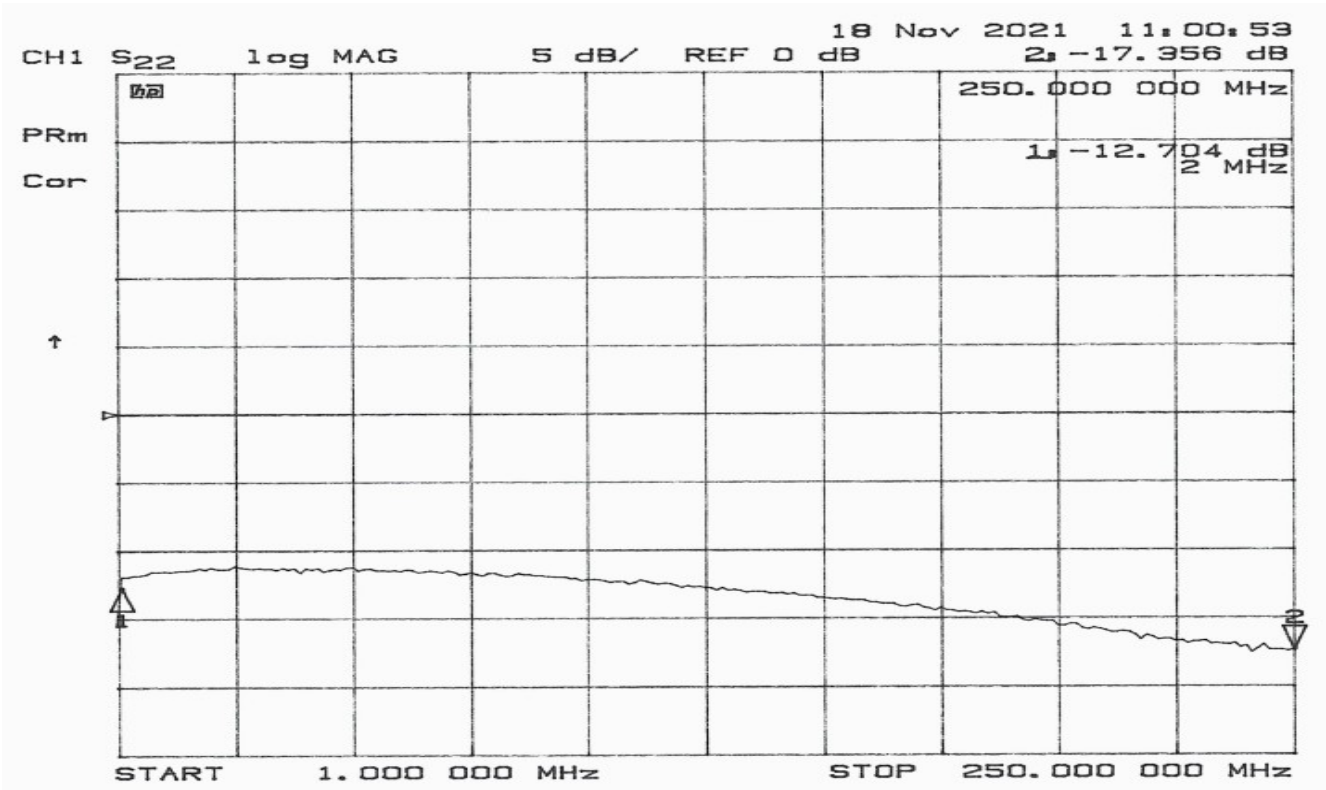
CH1 S11 log MAG 5 dB/ REF 0 dB
2: -17.586 dB
250.000 000 MHz
PRm
1: -9.1354 dB
2 MHz
Cor
START 1.000 000 MHz
STOP 250.000 000 MHz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2: -17.356 dB
250.000 000 MHz
PRm
1: -12.704 dB
2 MHz
Cor
START 1.000 000 MHz
STOP 250.000 000 MHz

FINAL ELECTRICAL TEST REQUIREMENTS

TEST Vdc +24V	LIMITS Tc = 25^0 C	ACTUAL VALUE
Gain 2 to 250 MHz	21.0 dB min 22.0 dB Typ	22.0 min 22.2 max
Gain Flatness 2 to 250 MHz	± 0.5 dB max	±0.1 max
Gain Variation Over Temp. 2 to 250 MHz	0.7 dB typ	/
DC Current at +24 Vdc	500 mA max	435 mA max
Input VSWR 5 to 250 MHz	2.0 : 1 max	1.8 max
Output VSWR 5 to 250 MHz	2.0 : 1 max	1.75 max
Noise Figure 2 to 250 MHz	3.5 dB max	2.76 max
P 1.0 dB Compression 2 to 250 MHz	33 dBm min	35.0 min
IP3 with Pout = +20.0 dBm each tone 1) F1/F2 = 6/7 MHz Fc = 5/8 MHz 2) F1/F2 = 148/149 MHz Fc = 147/150 MHz 3) F1/F2 = 248/249 MHz Fc = 247/250 MHz	49.0 dBm min	50.0 min 54.0 min 52.0 min
IP2 with Pout = +20.0 dBm each tone 1) F1+F2 = 126 +124 MHz Fc = 250 MHz 2) F1-F2 = 126 - 124 MHz Fc = 2 MHz	80.0 dBm min	87.0 min 88.0 min
Stability Test : For all frequencies Where $\lvert S21 \rvert$ > 0dB	0 dB max	<0

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FUNCTIONAL BLOCK DIAGRAM