

Features: (typical values)

- Ultra High Linearity
- Low Noise Figure
- Unconditional Stability
- No external component required

2 – 250 MHz
22 dB Ultra-linear
Amplifier

Maximum Ratings

Storage temperature -40°C to +100°C
 DC Operating Voltage +26.0 volts
 RF Input Power +20dBm max.
 Operating Base Temp. +100°C

Product Description:

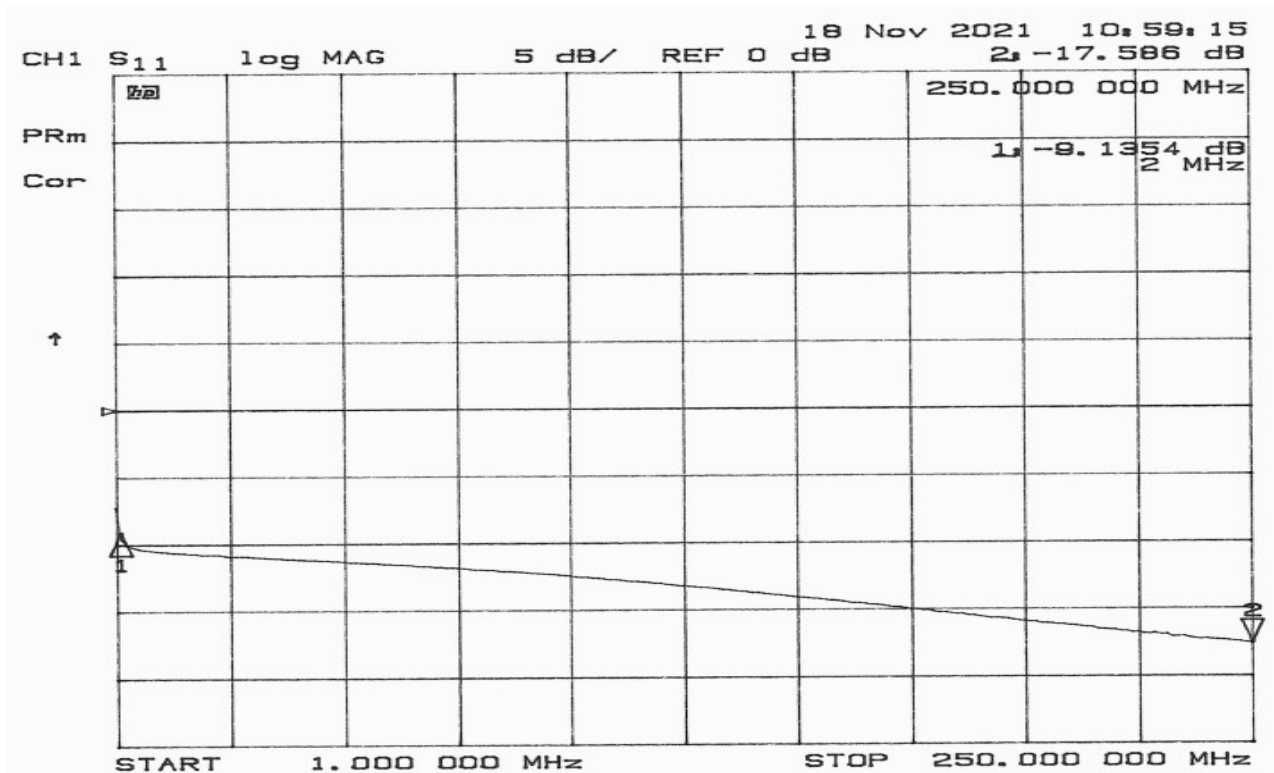
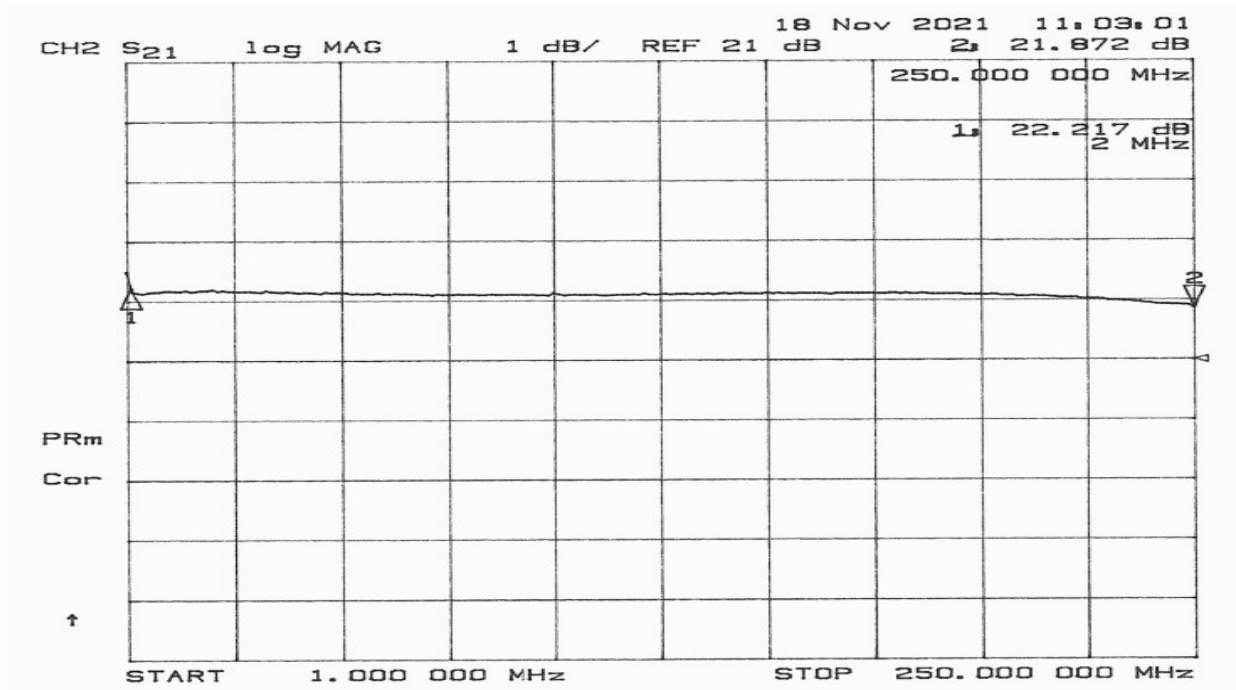
ASC523C is a Power Doubler SMD module. It contains GaAs pHEMT die driving GaN die and is operating from 2MHz to 250MHz. It has excellent linearity with very low Noise Figure and optimal reliability.

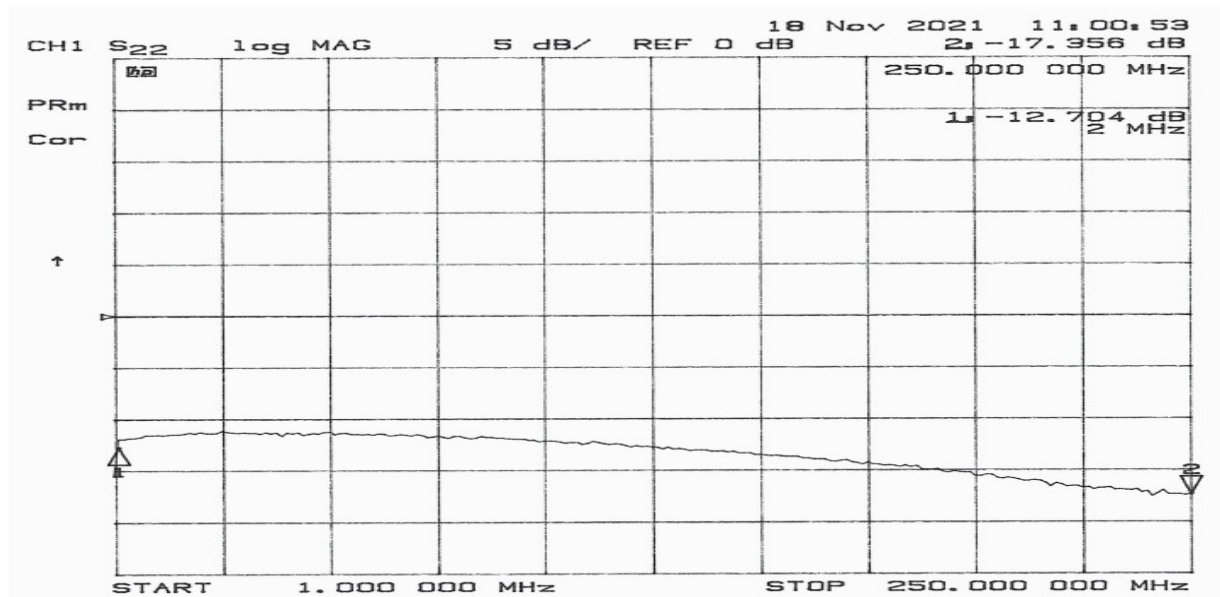
Specifications @ Tcase = 30°C (Referenced to 50 ohms)

Parameter	Typical Conditions	Min Value	Max Value	Units
Frequency Range		2	250	MHz.
Power Gain	22.0 dB	21.0	23.0	dB.
Gain Flatness 2MHz – 250MHz	0.2		1.0	dB.
Input/Output VSWR 5MHz-250MHz	1.7:1		2.0 :1	dB.
IP3 2 tones @ +20dbm per tone	52dBm	49.0		dBm.
IP2 2 tones @ +20dbm per tone	86 dBm	80.0		dBm.
P1dB	+35dbm	33		dbm
Noise Figure (NF)	2.8 dB		3.5	dB.
Total Current (I _{TOT})	+24V/430mA		500	mA.

FINAL ELECTRICAL TEST REQUIREMENTS

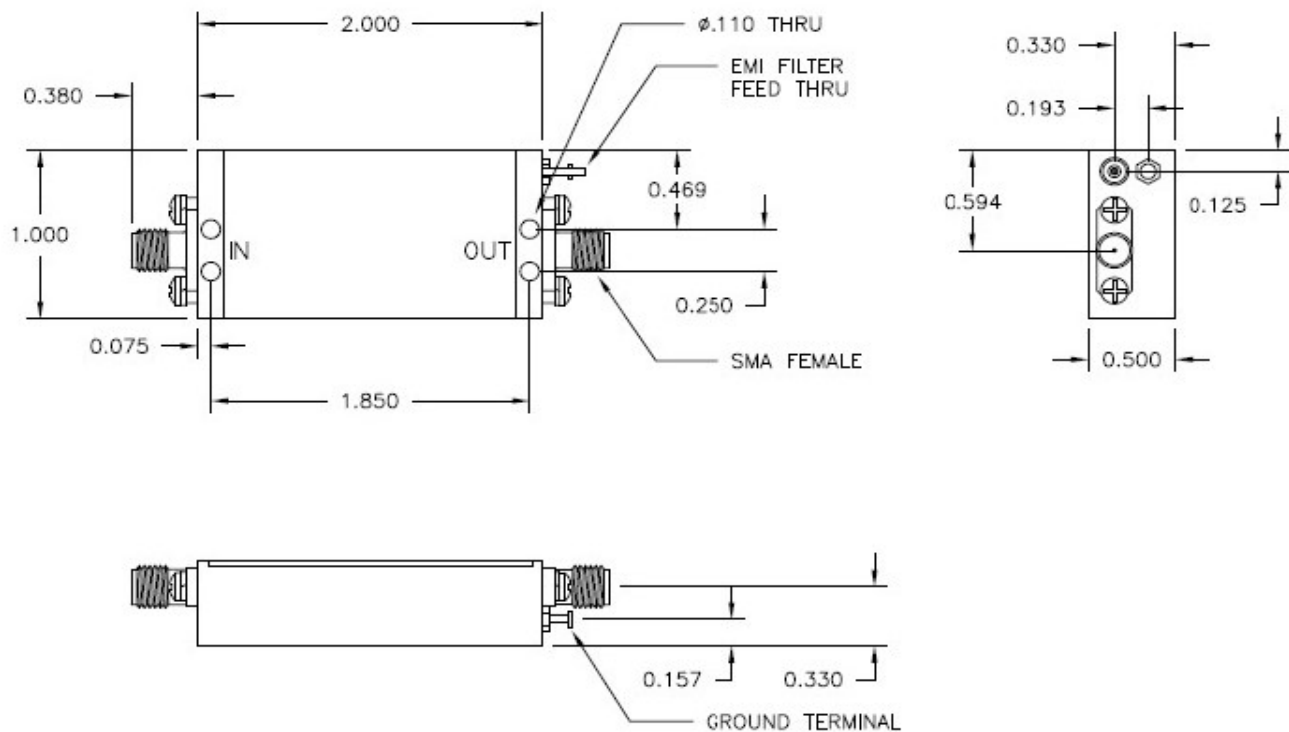
TEST Vdc +24V	LIMITS Tc = 25° C	ACTUAL VALUE
Gain 2 to 250 MHz	21.0 dB min 22.0 dB Typ	22.0 min 22.2 max
Gain Flatness 2 to 250 MHz	± 0.5 dB max	±0.1 max
Gain Variation Over Temp. 2 to 250 MHz	0.7 dB typ	/
DC Current at +24 Vdc	500 mA max	435 mA max
Input VSWR 5 to 250 MHz	2.0 : 1 max	1.8 max
Output 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 $ S_{21} > 0\text{dB}$	0 dB max	<0





OUTLINE DRAWING

OUTLINE



FUNCTIONAL BLOCK DIAGRAM

