

ASC402C

20-1200 MHz Push-Pull Wideband Amplifier

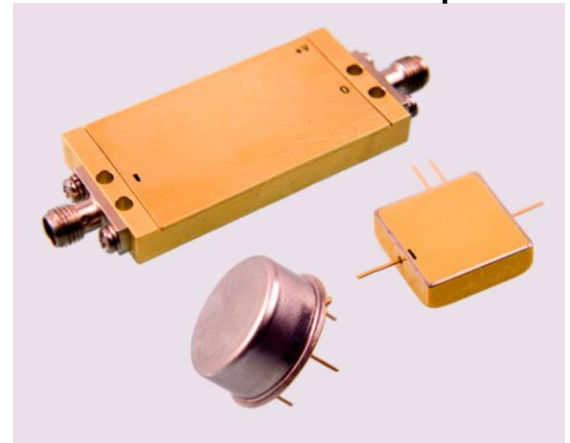
Features: (typical values)

- Low Distortion
- High Second Order IP2 +70.0 dBm.
- High Third Order IP3 +42.0 dBm.
- Hermetic Package (Surface Mount available)
- No external components required

Maximum Ratings

Storage Temperature -62°C to +125°C
 DC Voltage +17 volts
 RF Input Power +15.0 dBm.
 Case Temperature +95°C

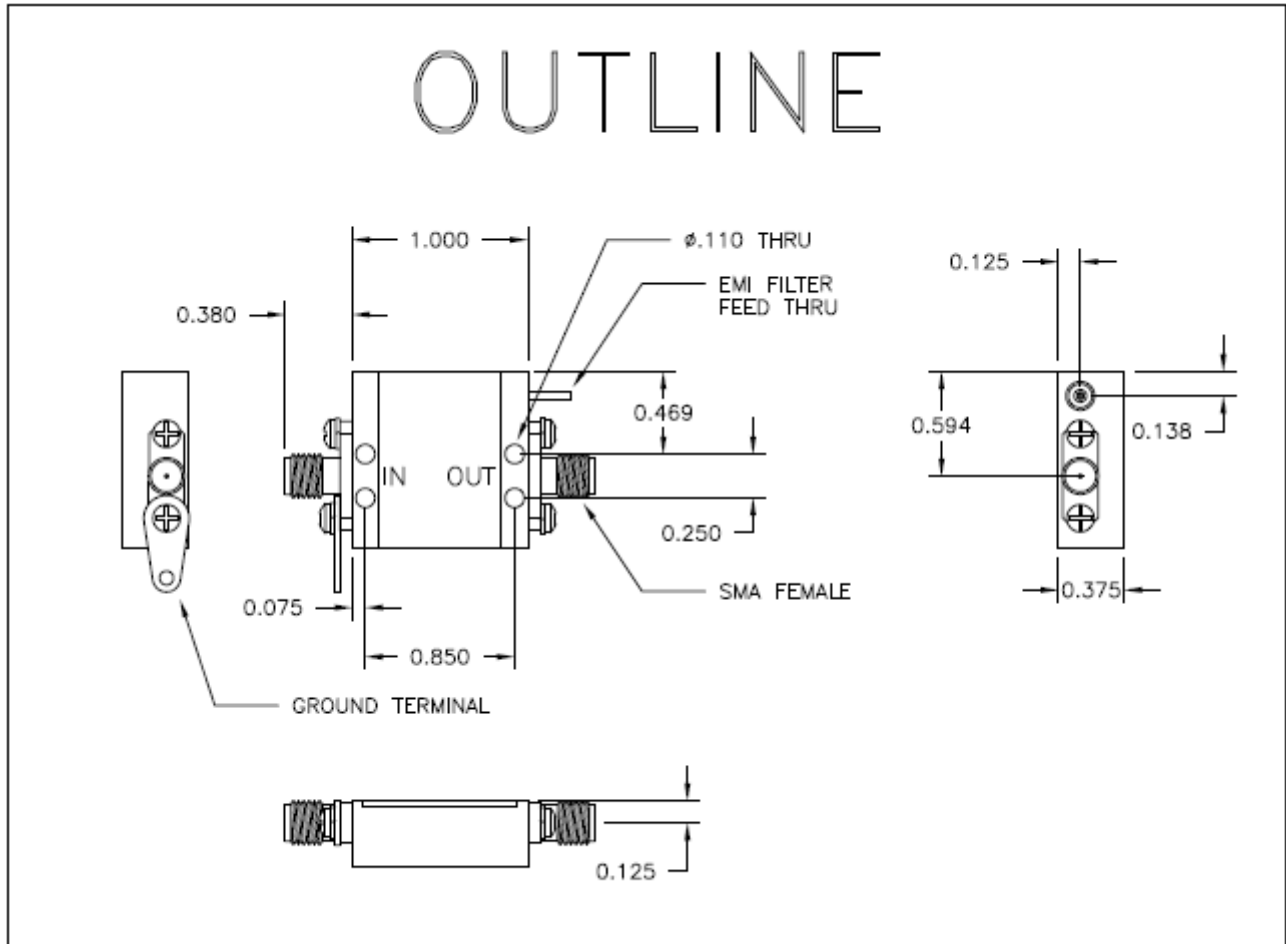
Specifications (Referenced to 50 ohms)



Parameter	Typical Conditions	Min Value	Max Value	Units
Frequency		20	1200	MHz.
Gain	11.5	10.0		dB.
Gain Flatness	±0.4		±1.0	dB.
Gain Var. over temp	0.7			ΔdB.
Pout @ 1dB Comp	+27	+25		dBm.
Noise Figure	4.0		6.0	dB.
Reverse Isolation	17.0			dB.
IP ₃ /IP ₂ (two-tone)*	42/70	38/60		dBm.
HIP2 (2 nd harm.)	75			dBm.
VSWR In/Out	1.7:1		2.0:1	
Supply Required	+15/190		+15/220	v/mA.

Min. and max. values are from -40°C to +85°C
 *IP₃ and IP₂ are in band output intercept points

OUTLINE

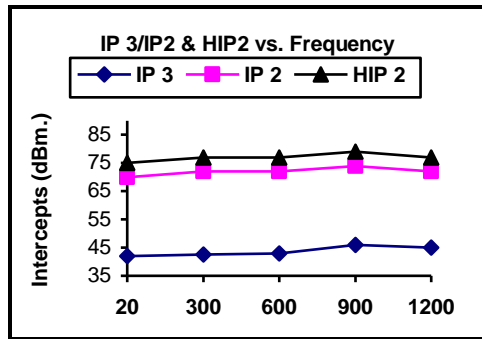
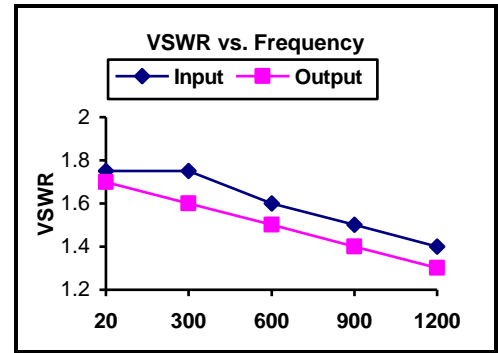
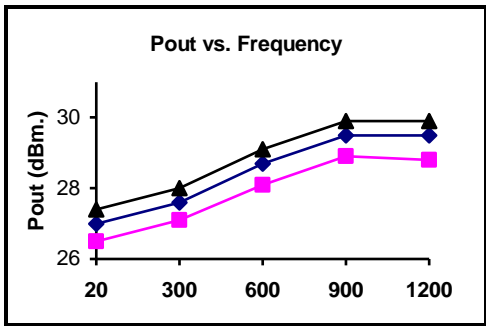
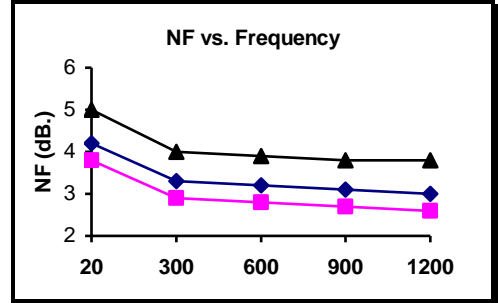
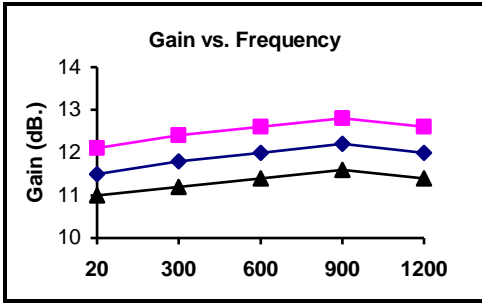


FINAL ELECTRICAL TEST REPORT
RECORD DATA @ +25°C ONLY

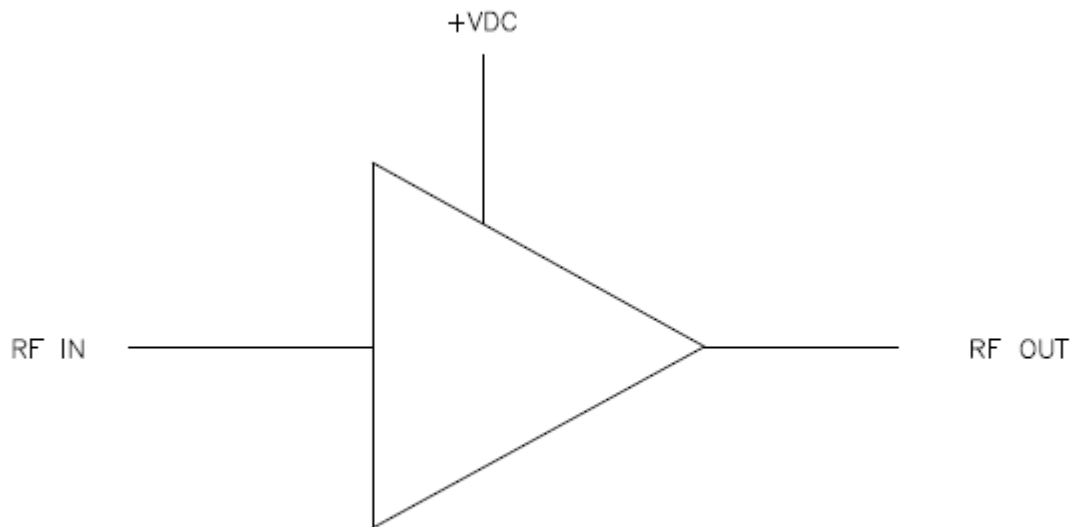
TEST Vdc +15V	LIMITS -40°C/+25°C/+85°C	ACTUAL DATA
Gain 20 to 1200 MHz	10 dB min	12.6 13.3
Gain Flatness 20 to 1200 MHz	± 1.0 dB max	±0.35
Gain Variation Over Temp. 20 to 1200 MHz	0.7 dB typ	/
Reverse Isolation 20 to 1200 MHz	17 dB typ	20.5
DC Current at +15 Vdc	220 mA max	206
Input VSWR 20 to 1200 MHz	2.0 : 1 max	1.7
Output VSWR 20 to 1200 MHz	2.0 : 1 max	1.7
Noise Figure 20 to 1200 MHz	6.0 dB max	3.6
P 1.0 dB Compression 20 to 1200 MHz	+25 dBm min	27
IP3 with Pout = +15.0 dBm each tone 1) F1/F2=21/22 MHz, Fc=20&23 MHz 2) F1/F2=499/500 MHz, Fc=498&501 MHz 3) F1/F2=1198/1199 MHz, Fc=1197&1200 MHz	38.0 dBm min	41 41 43
IP2 with Pout = +15.0 dBm each tone 1) F1-F2=600-580 Fc=20MHz 2) F1+F2=600+580 Fc=1180MHz	60.0 dBm min	65 65
HIP2 (2 nd ham.)	75 Typ	67
Stability Test : For all frequencies Where $ S_{21} > 0\text{dB}$	0 dB max	<0

Typical Performance Curves

■ -40°C ◆ -+25°C ▲ -+85°C



FUNCTIONAL BLOCK DIAGRAM



NO EXTERNAL COMPONENT REQUIRED