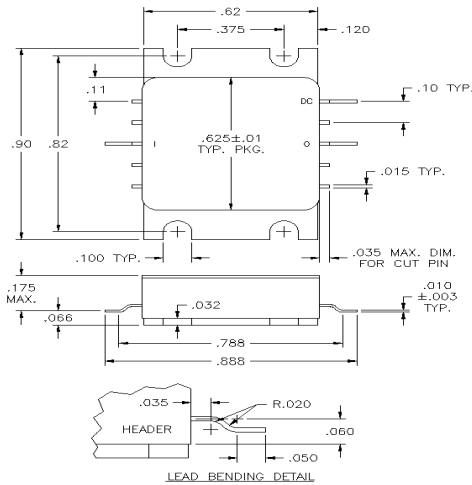
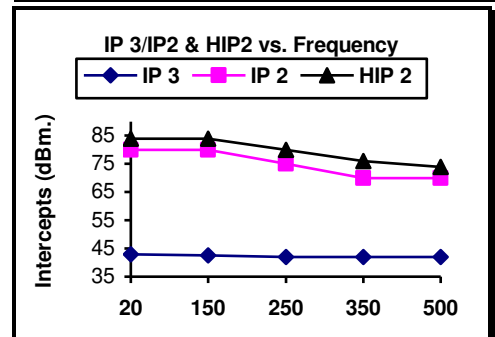
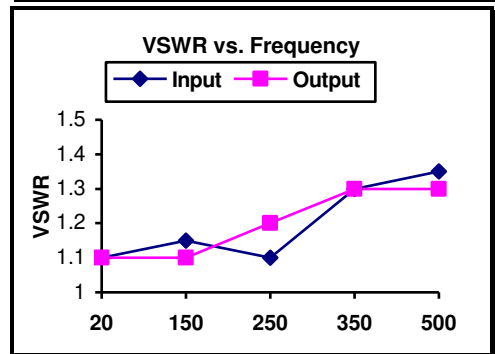
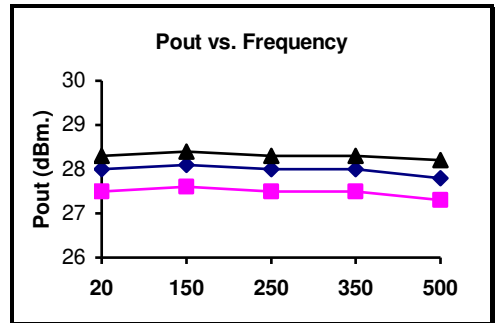
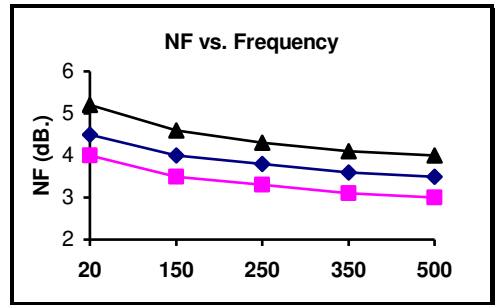
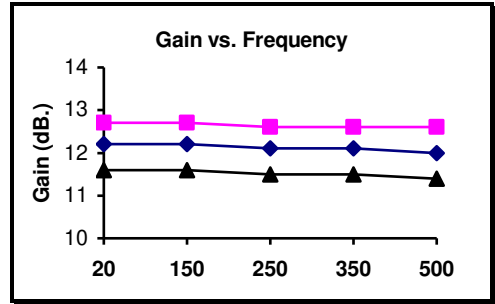


# ASC400 20-500 MHz. Push Pull Amplifier



**Typical Performance Curves**  
 - ■ -55°C - ◆ -+25°C - ▲ -+85°C



## Features: (typical values)

- Low Distortion
- High Second Order IP2 ..... +80.0 dBm.
- High Third Order IP3 ..... +42.0 dBm.
- Hermetic Package (Surface Mount available)
- No external components required

## Specifications (Referenced to 50 ohms)

Parameter	Typical Value	Min. Value	Max. Value	Units
Frequency		20	500	MHz.
Gain	12	11.0		dB.
Gain Flatness	±0.3		±0.8	dB.
Gain Var. over temp.	0.7			ΔdB.
Pout @ 1dB. Comp.	+28	+25		dBm.
Noise Figure	4.5		6.0	dB.
Reverse Isolation	18.0			dB.
IP <sub>3</sub> /IP <sub>2</sub> (two-tone)*	42/80	38/60		dBm.
HIP <sub>2</sub> (2 <sup>nd</sup> harm.)	85	65		dBm.
VSWR In/Out	1.35:1		1.5:1	
Supply Req'd	+15/230		+15/250	v/mA.

Min. and max. values are from -55°C to +85°C  
 \*IP<sub>3</sub> and IP<sub>2</sub> are in band output intercept points

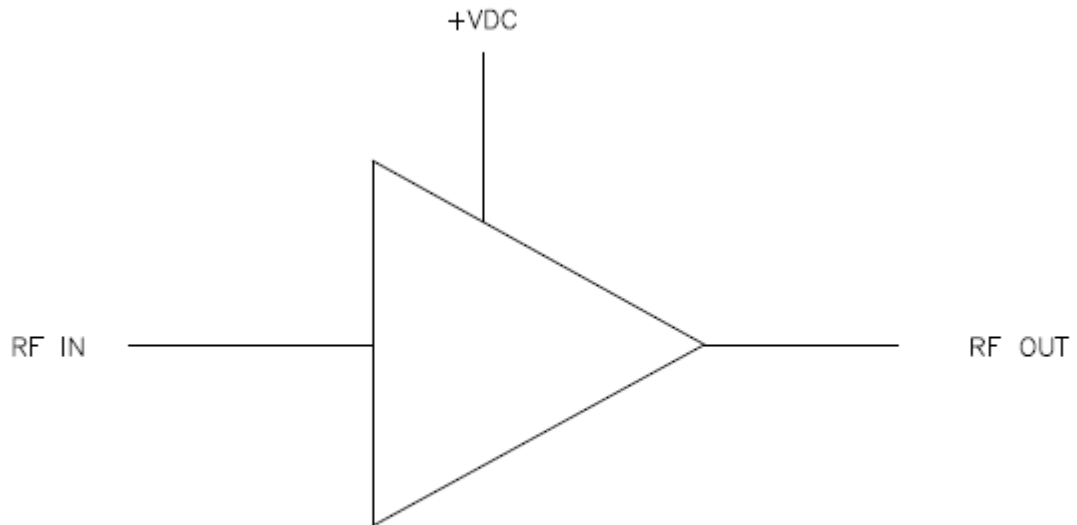
## Maximum Ratings

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

## FINAL TEST REPORT ASC400

DESCRIPTION	SPEC LIMIT	ACTUAL DATA
Gain 20 MHz to 500 MHz	11.0 dB min	12.3 12.5
Gain Flatness 20 MHz to 500 MHz	± 0.8 dB max	±0.1
Gain Var. Over Temp	0.7 dB Typ	0.6
Reverse Isolation	18 dB Typ	>22
DC Current at +15 Vdc	250 mA max	209
Input VSWR 20 MHz to 500 MHz	1.5 : 1 max	1.24
Output VSWR 20 MHz to 500 MHz	1.5 : 1 max	1.28
Noise Figure 20 MHz to 500 MHz	6.0 dB max	4.08
P 1.0 dB Compression 20, 300 & 500 MHz	25.0 dBm min	>27
IP3 with Pout = 15.0 dBm each tone 1) F1/F2=21/22 MHz, Fc=20/23 MHz 2) F1/F2=301/302 MHz, Fc=300/303 MHz 3) F1/F2=498/499 MHz; Fc=497/500 MHz	40.0 dBm min	42.0
IP2 with Pout = 15.0 dBm each tone 1) F1-F2=500MHz-480MHz, Fc=20MHz 2) F1+F2=55MHz+245MHz, Fc=300MHz 3) F1+F2=55MHz+445MHz, Fc=500MHz	60.0 dBm min	72.0
HIP2 ( 2 <sup>nd</sup> harmonic )	65.0 dB Min	75.0
Stability Test. For all frequency range where $ S_{21}  > 0\text{dB}$	0 dB max	<0

FUNCTIONAL BLOCK DIAGRAM



NO EXTERNAL COMPONENT REQUIRED