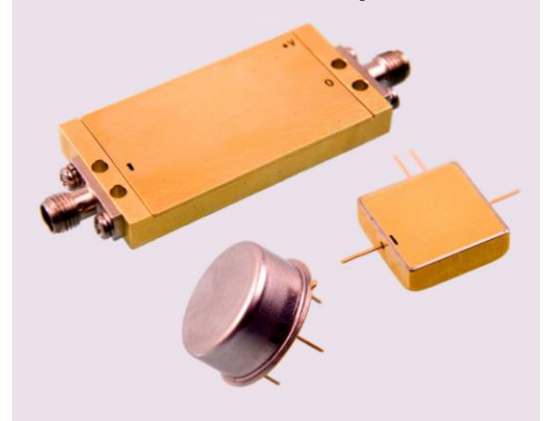


# ASC659

## Features: (typical values)

- Wide Band ..... 50-2500 MHz.
- Noise Figure ..... 3.0 dB.
- Med Gain ..... 17 dB.
- No external components required

## 50-2500 MHz Cascadable Amplifier



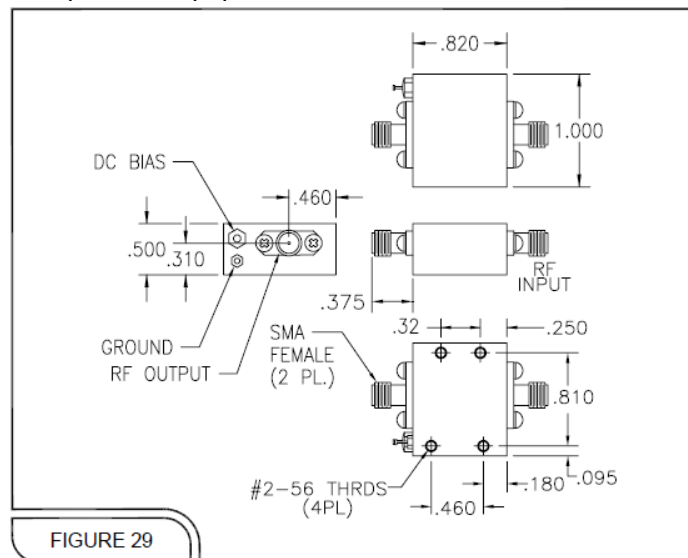
## Maximum Ratings

Storage Temperature ..... -62°C to +125°C  
 DC Voltage ..... +17 volts  
 RF Input Power ..... +7.0 dBm.  
 Case Temperature ..... +100°C

Specifications (Referenced to 50 ohms)

Parameter	Typical Conditions	Min Value	Max Value	Units
Frequency		50	2500	MHz.
Gain	17	15		dB.
Gain Flatness	±0.5		±1.0	dB.
Gain Var. over temp	0.6			ΔdB.
Pout @ 1dB Comp	+24	+22		dBm.
Noise Figure	3.0		4.0	dB.
Reverse Isolation	27			dB.
IP <sub>3</sub> /IP <sub>2</sub> (two-tone)*	34/43			dBm.
HIP2 (2 <sup>nd</sup> harm.)	45			dBm.
VSWR In/Out	1.7:1		2.0:1	
Supply Required	+15/180		+15/195	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



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

<b>TEST</b> Vdc +15V	<b>LIMITS</b> -55°C/+25°C/+85°C	<b>ACTUAL DATA</b>
Gain 5 MHz to 500 MHz	31.0 dB min	32.0 32.6
Gain Flatness 5 MHz to 500 MHz	± 1.0 dB max	±0.3
Reverse Isolation 5 MHz to 500 MHz	40 dB typ	32.2
DC Current at +15 Vdc	45 mA max	41
Input VSWR 5 MHz to 500 MHz	2.0 : 1 max	1.51
Output VSWR 5 MHz to 500 MHz	2.0:1 max	1.81
Noise Figure 5 MHz to 500 MHz	3.0 dB max	2.64
P 1.0 dB Compression 5, 300 & 500 MHz	+8.0 dBm min	12.4
IP3 with Pout = -8.0 dBm each tone 1) F1=6 MHz; F2=7 MHz; Fc=5/8 MHz 2) F1=301 MHz; F2=302 MHz; Fc=300/303MHz 3/ F1=498 MHz, F2=499 MHz, Fc=497/500MHz	20.0 dBm typ	25.0 26.0 23.0
Stability Test For all frequency range Where $ S_{21}  > 0\text{dB}$	0 dB max	<0

FUNCTIONAL BLOCK DIAGRAM

