



ACA2782

1 GHz, 21 dB Gain

CATV Power Doubler Amplifier

ADVANCED PRODUCT INFORMATION - Rev 0.0

FEATURES

- 21 dB Gain
- 40 MHz to 1 GHz Operating Range
- 0.4 dB Gain Flatness
- 24 V Supply
- Supply Current : 425 mA (Typ.)
- Very Low Distortion & Noise
- Robust Design and Insensitive to Voltage Transients
- GaAs Monolithic IC-Based
- Standard SOT115J Package

APPLICATIONS

- Distribution Nodes and Line Extenders in CATV Systems

PRODUCT DESCRIPTION

The ACA2782 is a GaAs Hybrid Amplifier for CATV HFC distribution systems. It consists of two pairs of parallel amplifiers that are optimized for exceptionally low distortion and noise figure. The ACA2782 is offered in a standard SOT115J package.

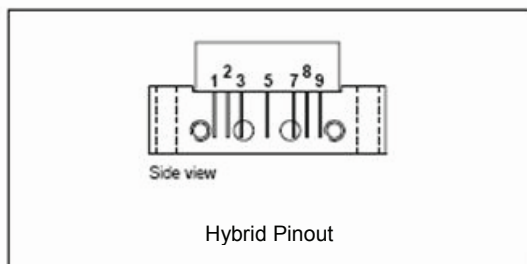
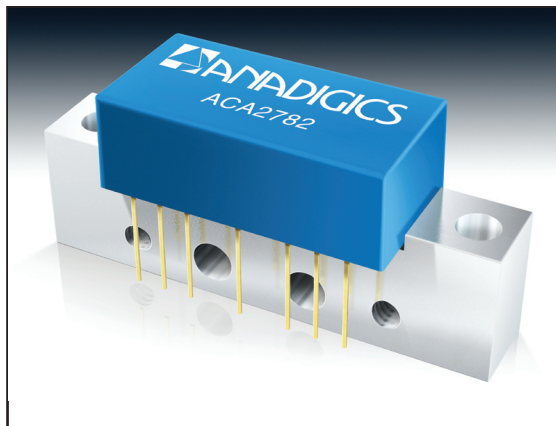


Figure 2: Hybrid Pinout

Table 1: SOJ115J Pinning

PIN	Description
1	RF Input
2	GND
3	GND or No Connection
5	24 V
7, 8	GND
9	RF Output

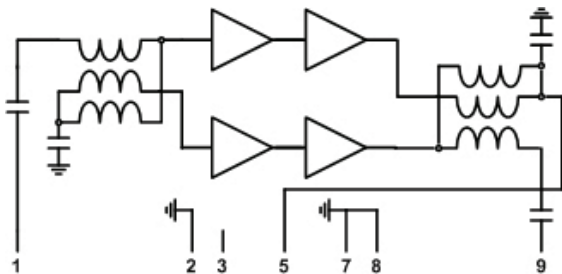


Figure 1: Simplified Hybrid Internal Arrangement

Table 2: Absolute Minimum and Maximum Ratings

	Symbol	Min	Typ	Max	Unit	Conditions
Supply Voltage	V _{DD}	-	+24	+28	V _{DC}	
RF Power at inputs	-	-	-	+70	dBmV	single tone
Operating mounting Base temperature	T _{MB}	-20	-	+100	°C	
Storage Temperature	T _{STG}	-40		+100	°C	

Table 3: Operating Ranges

	Symbol	Min	Typ	Max	Unit	Conditions
RF Frequency	-	40	-	1000	MHz	

Table 4: Electrical Characteristics**(Test condition: 40 to 870 MHz, T_{MB} = 30°C, 75 Ω loading, see note 1)**

	Symbol	Min	Typ	Max	Unit	Conditions
Power Gain	G _P	-	20.8	-	dB	55 MHz
Slope cable equivalent	SL	-	0.2	-	dB	
Gain Flatness	FL	-	0.4	-	dB	
Input Return Loss	S ₁₁	-	-	-18	dB	
Output Return Loss	S ₂₂	-	-	-18	dB	
CTB	-	-	-75	-	dBc	See Note 1
CSO	-	-	-70	-	dBc	See Note 1
XMOD	-	-	-68	-	dBc	See Note 1
Noise Figure	-	-	3.5	5.0	dB	
Supply Current	-	-	425	-	mA	

Note:

1. 79 NTSC analog channels; 14 dB tilt referenced to 1 GHz; plus 75 digital channels with QAM at -6 dB offset above 550 MHz; +55 dBmV/CH output power at 1 GHz.

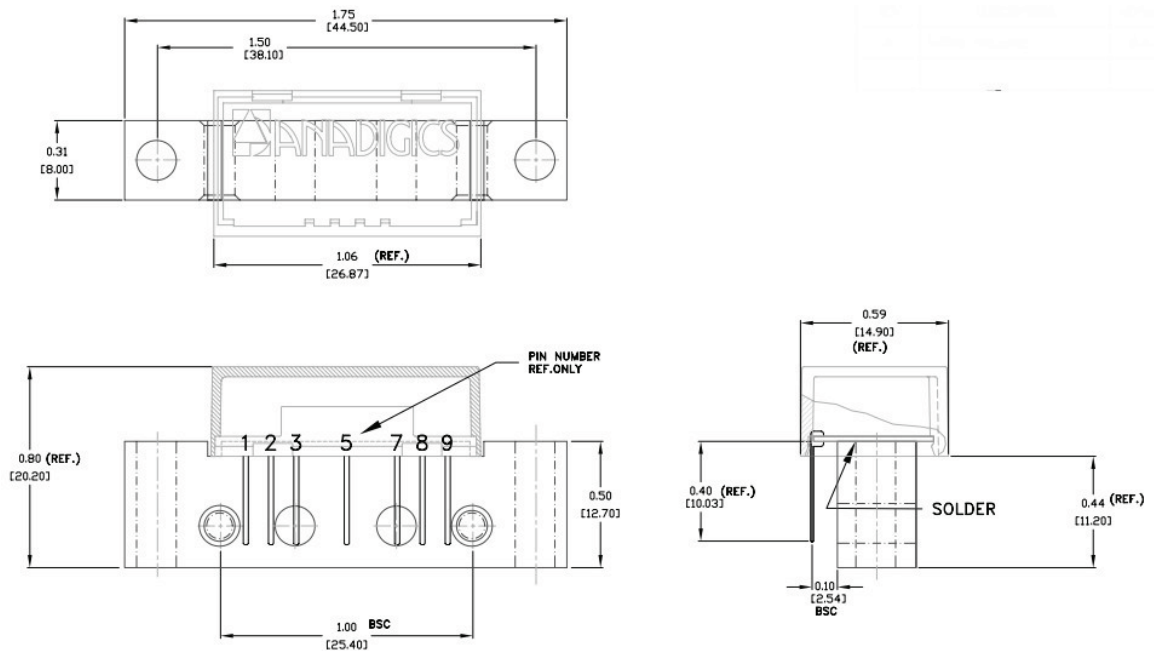


Figure 3: Hybrid Line Amp Physical Outline



ANADIGICS, Inc.

141 Mount Bethel Road

Warren, New Jersey 07059, U.S.A.

Tel: +1 (908) 668-5000

Fax: +1 (908) 668-5132

URL: <http://www.anadigics.com>

IMPORTANT NOTICE

ANADIGICS, Inc. reserves the right to make changes to its products or to discontinue any product at any time without notice. The product specifications contained in Advanced Product Information sheets and Preliminary Data Sheets are subject to change prior to a product's formal introduction. Information in Data Sheets have been carefully checked and are assumed to be reliable; however, ANADIGICS assumes no responsibilities for inaccuracies. ANADIGICS strongly urges customers to verify that the information they are using is current before placing orders.

WARNING

ANADIGICS products are not intended for use in life support appliances, devices or systems. Use of an ANADIGICS product in any such application without written consent is prohibited.