ACA2782

1 GHz, 21 dB Gain
CATV Power Doubler Amplifier
ADVANCED PRODUCT INFORMATION - Rev 0.0

FEATURES

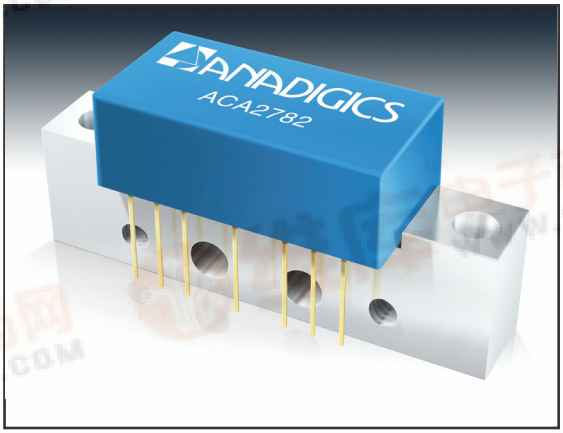
- 21 dB Gain
- 40 MHz to 1 GHz Operating Range
- 0.4 dB Gain Flatness
- 24 V Supply
- Supply Current : 425 mA (Typ.)
- Very Low Distortion & Noise
- Robust Design and Insensitive to Voltage Transients
- GaAs Monolithic IC-Based
- Standard SOT115J Package

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.



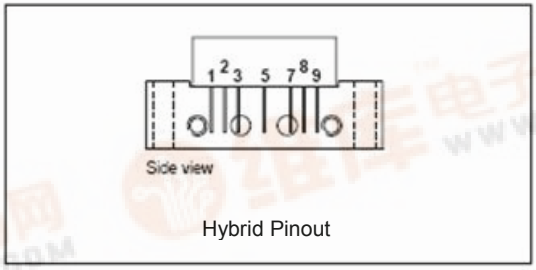


Figure 2: Hybrid Pinout

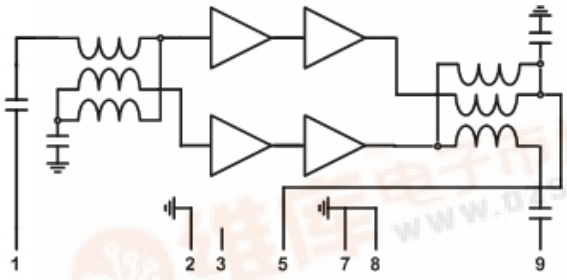


Figure 1: Simplified Hybrid Internal Arrangement

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

Table 2: Absolute Minimum and Maxium Ratings

查询"ACA2782"供应商	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.

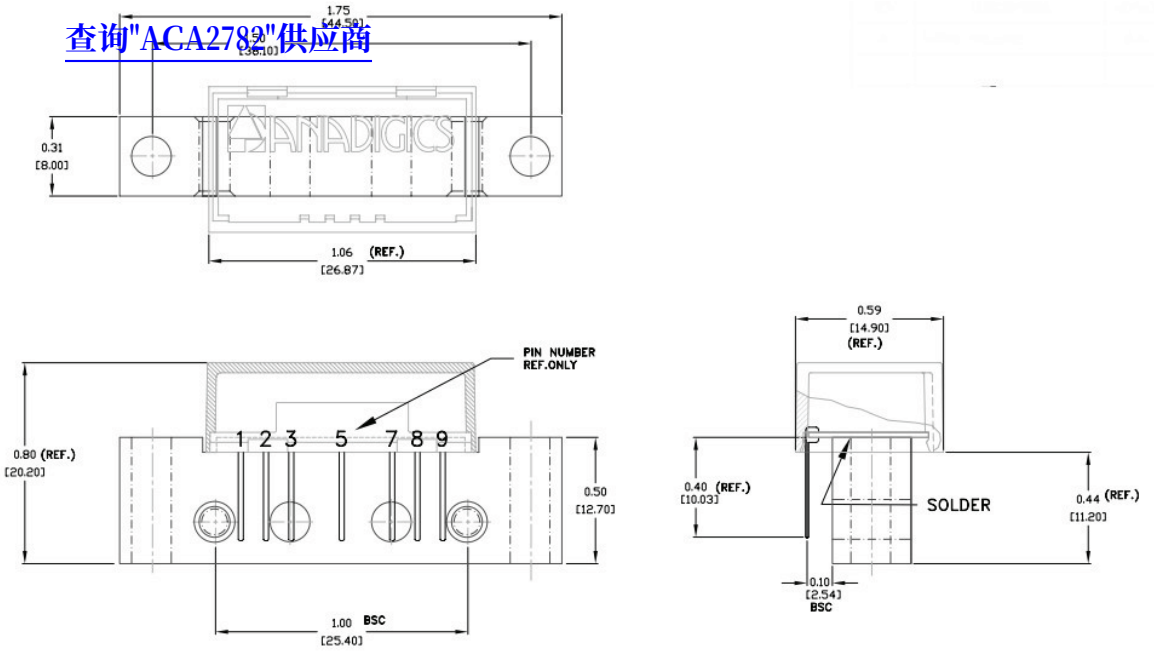


Figure 3: Hybrid Line Amp Physical Outline

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