

RF Amplifier

- * Operating Frequency :50-500 MHz.
- * Linear Power : +35 dBm.
- * IP3 : +51 dBm.
- * IP2 : +85 dBm.
- * Noise Figure : 3.0 dB.
- * No external components required



Description: Designed for linear application in the 50 - 500MHz range. This amplifier utilizes GaAs FETs and GaN devices that provide high wide dynamic range and excellent 2nd & 3rd OIP.

ELECTRICAL SPECIFICATION @ VDD= +24 VDC; Temp. = 25°C, 50Ω System

Parameter	Symbol	Min	Type	Max	Unit
Operating Frequency	BW	50		500	MHz.
Gain	G	20	22		dB.
Gain Flatness	ΔG		± 0.5	± 1.0	dB.
Noise Figure	NF		3	5	dB.
Power Output P1dB	P1dB	34	35		dBm.
Output 3rd Order Intercept Point	OIP3	49	51		dBm.
Output 2nd Order Intercept Point	OIP2	80	85		dBm.
VSWR in/out	S11/S22		1.8 :1	2.0 :1	Ratio
Operating Voltage	Vdc		24		Volt
Operating Current	Id		400	450	mA.

MECHANICAL SPECIFICATION

Parameter	Description	Limits	Units
Dimension	2.0 x 1.0 x 0.5		In.
RF Connectors IN/OUT	SMA-F Field Replaceable		
DC Connector	Filtered Solder Feed Thru		
Cooling	none		

PROTECTIONS

RF Input Power	18 dBm.	Max	
Reverse Polarity Protection	Option		
Load VSWR	Infinite up to 1W		
Stability	100% Tested		

ENVIROMENTAL CHARACTERISTICS

Parameter	Symbol	Min.	Type.	Max.	Units
Operating Case Temperature	Tc	0°C		70°C	°C
Storage Temperature	Tstg	- 40C		120°C	°C

3009 Old State Rd, Telford, PA 18969

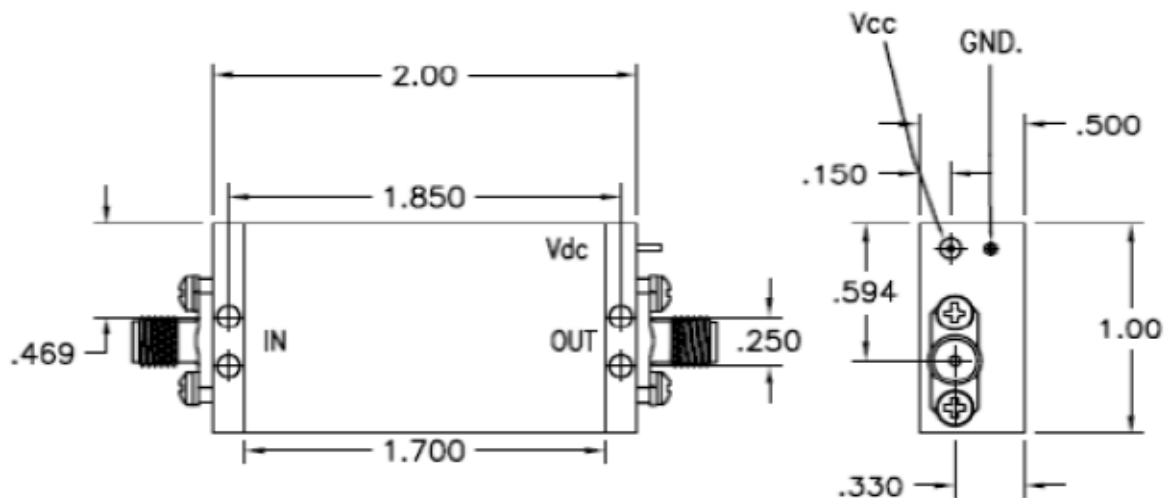
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DESCRIPTION: ASC433C
FINAL ELECTRICAL TEST REPORT
RECORD SAMPLE DATA @ +25°C ONLY

TEST Vdc +24V	LIMITS 0°C/+25°C/+70°C	ACTUAL DATA
Gain	20 dB min	21.3
50 MHz to 500 MHz	22 dB typ	21.7
Gain Flatness	±1.0 dB max	±0.2
50 MHz to 500 MHz		
Gain Variation vs. Temp	±1.25 dB max	<1
DC Current at +24 Vdc	450 mA max	403
Input VSWR	2.0: 1 max	1.94
50 MHz to 500 MHz		
Output VSWR	2.0: 1 max	1.95
50 MHz to 500 MHz		
Noise Figure		
50 MHz to 500 MHz	5.0 dB max	2.96
P 1.0 dB Compression		
50 MHz to 500 MHz	34 dBm min	35.2
IP3 with Pout = +20 dBm each tone		
1) F1 / F2 = 50 / 51 MHz Fc = 49 / 52 MHz	49 dBm min	51.0
2) F1 / F2 = 498/499 MHz Fc = 497/500 MHz		
IP2 with Pout = +20 dBm each tone		
1) F1+F2 = 55+445 MHz Fc = 500 MHz	80 dBm Min	82.0
2) F1-F2 = 495-445 MHz Fc = 50 MHz		
Stability Test for all frequency range where S21 > 0 dB	0 dB max	<0
Max Pin: No Change in NF with Pin @ +18 dBm, 250 mhz for 1 min	Accept / Reject	AC

Outline Drawing



FUNCTIONAL BLOCK DIAGRAM

