



Cascadable Amplifier 5 to 1500 MHz

A24/ SMA24

V3

Features

- HIGH GAIN TWO STAGES: 20.0 dB (TYP.)
- ULTRA LOW PHASE DEVIATION FROM LINEARITY: <± 2.5°, 100-1500 MHz
- LOW VSWR:<1.4:1 (TYP.)

Description

The A24 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for consistent performance and high reliability.

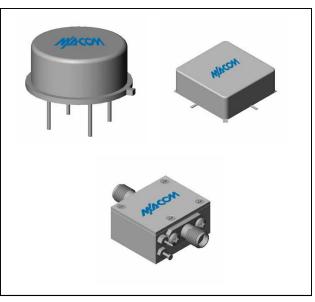
This 2 stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. An active DC biasing network insures temperature-stable performance.

Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available

Ordering Information

Part Number	Package		
A24	TO-8		
SMA24	Surface Mount		
CA24	SMA Connectorized		
CA24	SMA Connectorized		

Product Image



Electrical Specifications: $Z_0 = 50\Omega$, $V_{CC} = +15 V_{DC}$

Parameter	Units	Typical	Guaranteed	
		25°C	0° to 50°C	-54° to +85°C*
Frequency	MHz	2-1700	5-1500	5-1500
Small Signal Gain (min)	dB	20.0	19.0	18.0
Gain Flatness (max)	dB	±0.4	±0.8	±1.0
Reverse Isolation	dB	30		
Noise Figure (max)	dB	4.2	5.3	5.8
Power Output @ 1 dB comp. (min)	dBm	8.0	7.0	6.5
IP3	dBm	+20.5		
IP2	dBm	+42		
Second Order Harmonic IP	dBm	+47		
VSWR Input / Output (max)		1.4:1 / 1.4:1	2.0:1 / 2.0:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	34	38	40

Absolute Maximum Ratings

Parameter	Absolute Maximum	
Storage Temperature	-62°C to +125°C	
Case Temperature	+125°C	
DC Voltage	+20 V	
Continuous Input Power	7 dBm	
Short Term Input power (1 minute max.)	32 mW	
Peak Power (3 µsec max.)	0.5 W	
"S" Series Burn-In Temperature (case)	+125°C	

Thermal Data: $V_{CC} = +15 V_{DC}$

Parameter	Rating	
Thermal Resistance θ_{jc}	141°C/W	
Transistor Power Dissipation P _d	0.185 W	
Junction Temperature Rise Above Case T _{jc}	+26°C	

 $^{^{\}star}$ Over temperature performance limits for part number CA24, guaranteed from 0°C to +50°C only.

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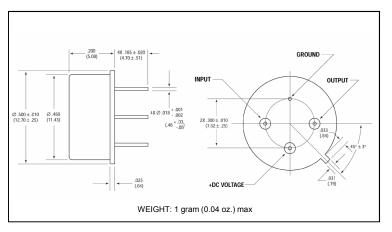
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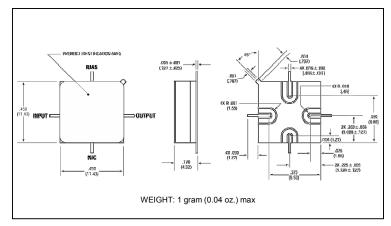
Typical Performance Curves at +25°C

GAIN ę GAIIN FREQUENCY - MHz Noise Figure 15 Vdc 600 866 1000 1200 1400 1800 400 FREQUENCY - MHz Power Output* POWER DUTPUT 500 800 1000 1200 1400 1600 FREQUENCY - MHz Intercept Point, 3rd Order Two Tone INTERCEPT 2 600 800 1000 1200 1400 1600 FREQUENCY - MHz vswr 1250 FREQUENCY - MHz

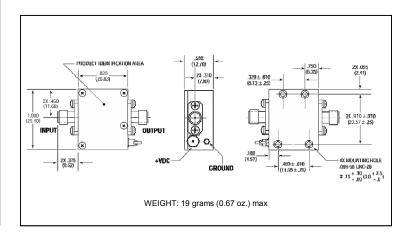
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



- * Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.
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