

**Cascadable Amplifier  
5 to 500 MHz**

**A74/ SMA74**

V4

**Features**

- HIGH GAIN - TWO STAGES: 30.0 dB (TYP.)
- MEDIUM OUTPUT LEVEL: +8.5 dBm (TYP.)
- WIDE POWER SUPPLY RANGE: +8 TO +15 VOLTS
- LOW VSWR: <1.3:1 (TYP.)

**Description**

The A74 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.

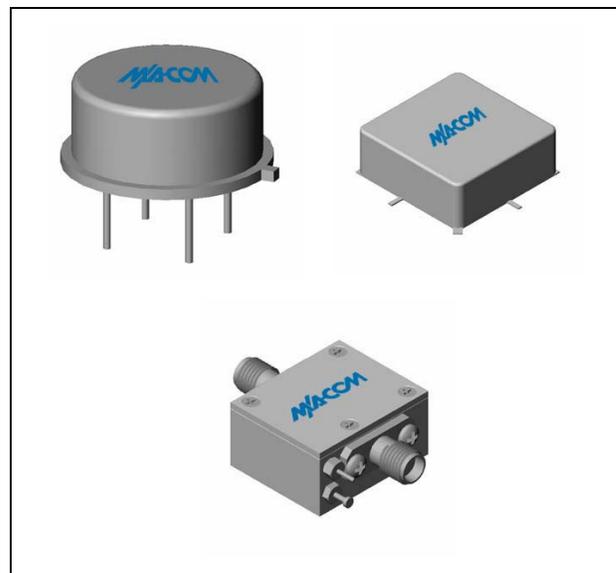
Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available

**Ordering Information**

Part Number	Package
A74	TO-8
SMA74	Surface Mount
CA74**	SMA Connectorized

\*\* The connectorized version is not RoHS compliant.

**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	1-600	5-500	5-500
Small Signal Gain (min)	dB	30.0	28.0	27.0
Gain Flatness (max)	dB	±0.3	±0.7	±1.0
Reverse Isolation	dB	40		
Noise Figure (max)	dB	3.0	4.0	4.5
Power Output @ 1 dB comp. (min)	dBm	8.5	7.5	7.0
IP3	dBm	+20		
IP2	dBm	+33		
Second Order Harmonic IP	dBm	+36		
VSWR Input / Output (max)		1.3:1 / 1.3:1	1.8:1 / 1.8:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	40	42	44

**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	125°C
DC Voltage	+17 V
Continuous Input Power	+6 dBm
Short Term Input power (1 minute max.)	50 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 $\theta_{jc}$	171°C/W
Transistor Power Dissipation $P_d$	0.200 W
Junction Temperature Rise Above Case $T_{jc}$	34°C

\* Over temperature performance limits for part number CA74, guaranteed from 0°C to +50°C only.

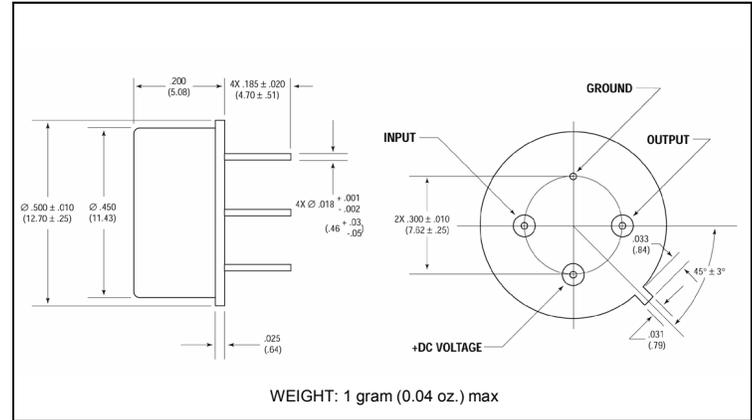
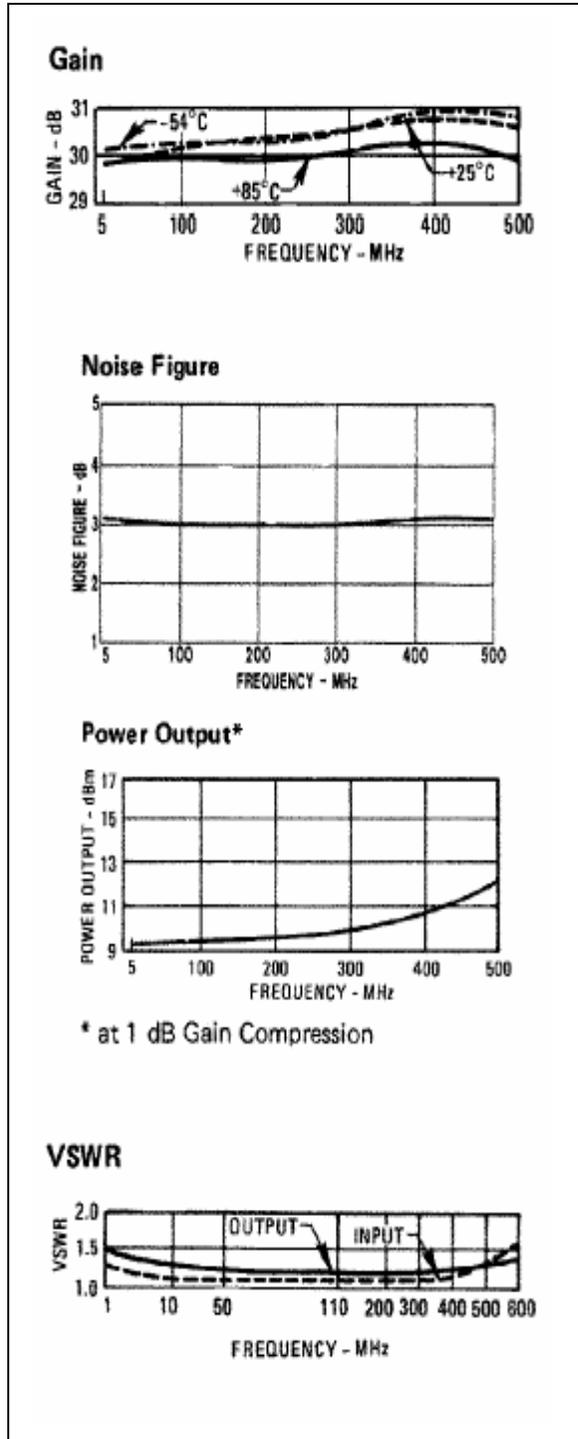
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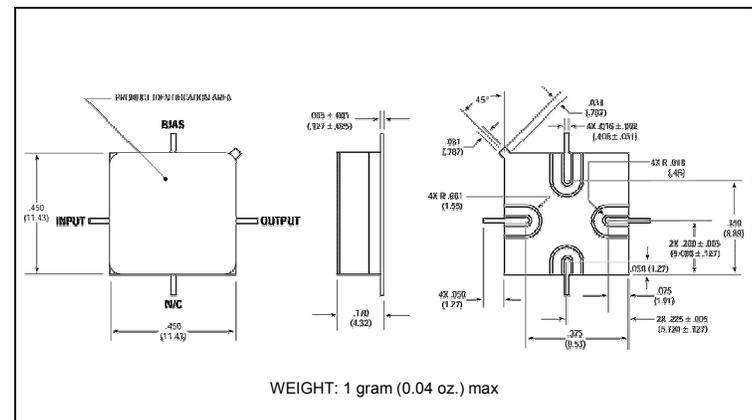
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**Typical Performance Curves at +25°C**

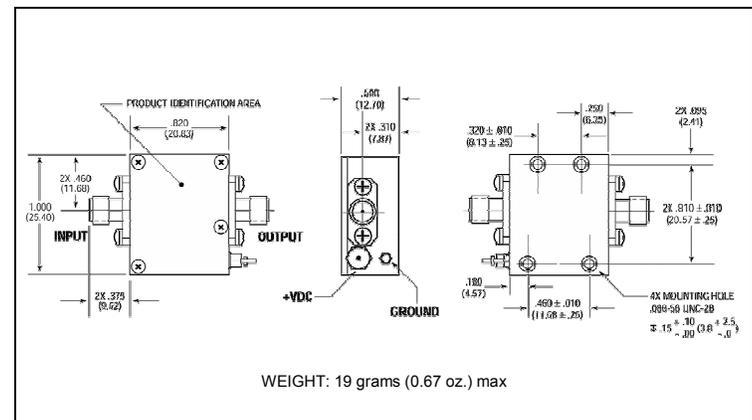
**Outline Drawing: TO-8 \***



**Outline Drawing: Surface Mount \***



**Outline Drawing: SMA Connectorized \***



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