

**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.

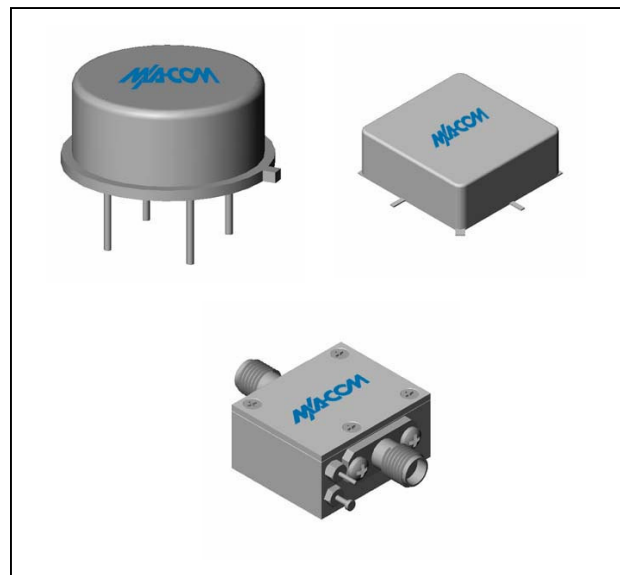
Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available

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 θ_{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.

M/A-COM Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. M/A-COM makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does M/A-COM assume any liability whatsoever arising out of the use or application of any product(s) or information.

• **North America** Tel: 800.366.2266 / Fax: 978.366.2266
 • **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
 • **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

Visit www.macom.com for additional data sheets and product information.

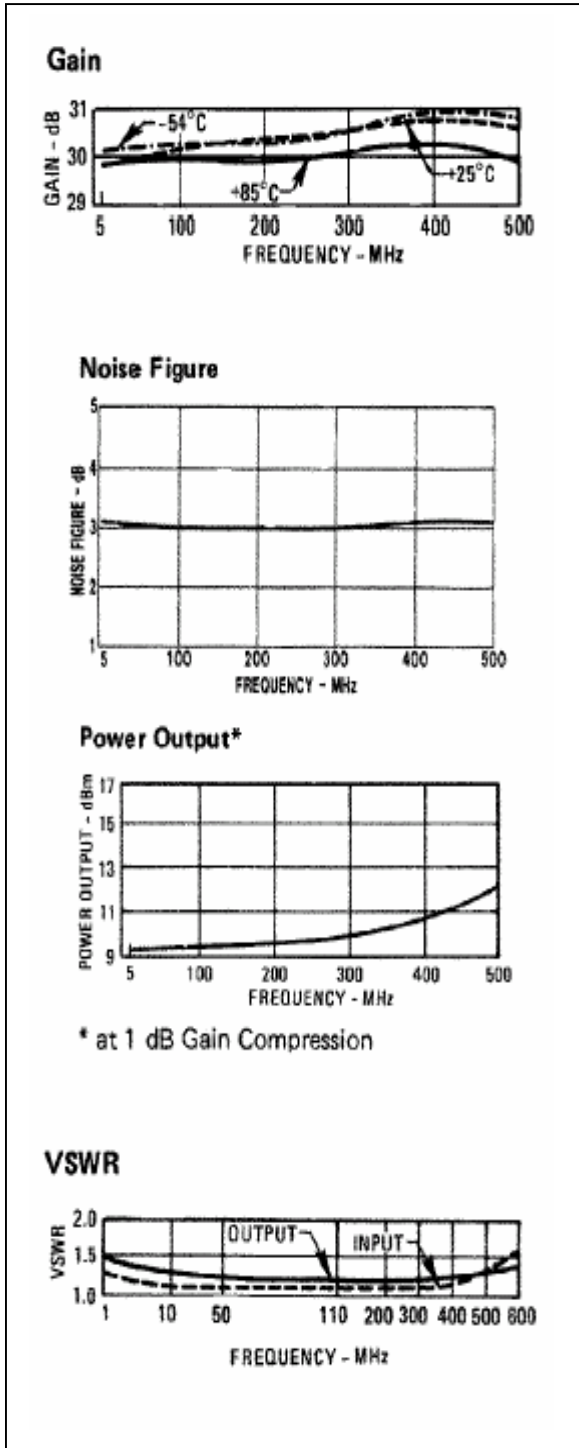
**Cascadable Amplifier
5 to 500 MHz**

A74/ SMA74

V4

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.