

**Cascadable Amplifier  
5 to 500 MHz**

**A74-2/ SMA74-2**

V2

**Features**

- AVAILABLE IN SURFACE MOUNT
- HIGH GAIN - TWO STAGES: 26 dB (TYP.)
- LOW POWER DRAIN 65 m W AT 5 VOLTS

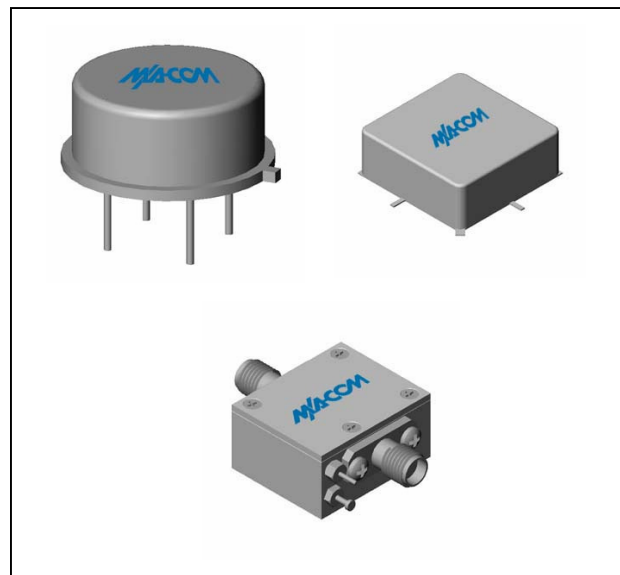
**Description**

The A74-2 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

**Product Image**



**Ordering Information**

Part Number	Package
A74-2	TO-8
SMA74-2	Surface Mount
CA74-2	SMA Connectorized

**Electrical Specifications:  $Z_0 = 50\Omega$ ,  $V_{CC} = +5 V_{DC}$**

Parameter	Units	Typical	Guaranteed	
		25°C	0° to 50°C	-54° to +85°C*
Frequency	MHz	1-550	5-500	5-500
Small Signal Gain (min)	dB	26.0	25.0	24.0
Gain Flatness (max)	dB	±0.8	±1.0	±1.2
Reverse Isolation	dB	36		
Noise Figure (max)	dB	3.8	4.3	4.8
Power Output @ 1 dB comp. (min)	dBm	-1.0	-2.0	-2.0
IP3	dBm	+10		
IP2	dBm	+16		
Second Order Harmonic IP	dBm	+20		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.9:1 / 1.9:1	2.0:1 / 2.0:1
DC Current @ 5 Volts (max)	mA	13	16	18

**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	125°C
DC Voltage	+7 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:  $V_{CC} = +5 V_{DC}$**

Parameter	Rating
Thermal Resistance $\theta_{jc}$	45°C/W
Transistor Power Dissipation $P_d$	0.023 W
Junction Temperature Rise Above Case $T_{jc}$	1°C

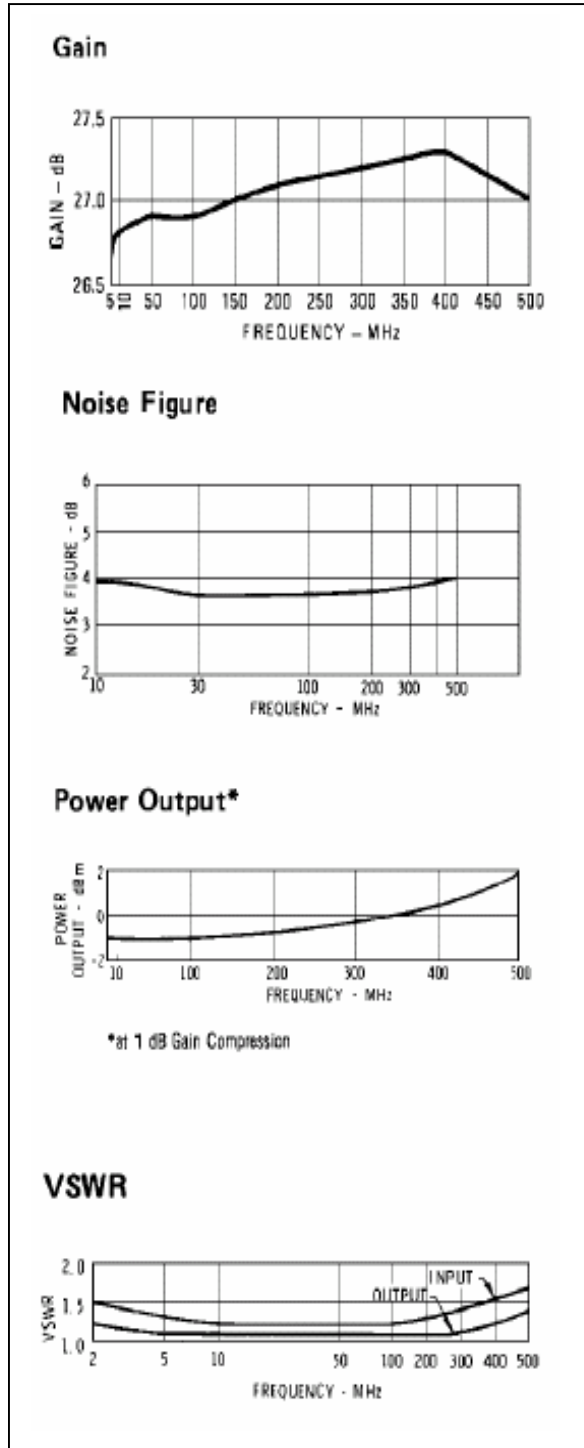
\* Over temperature performance limits for part number CA74-2, guaranteed from 0°C to +50°C only.

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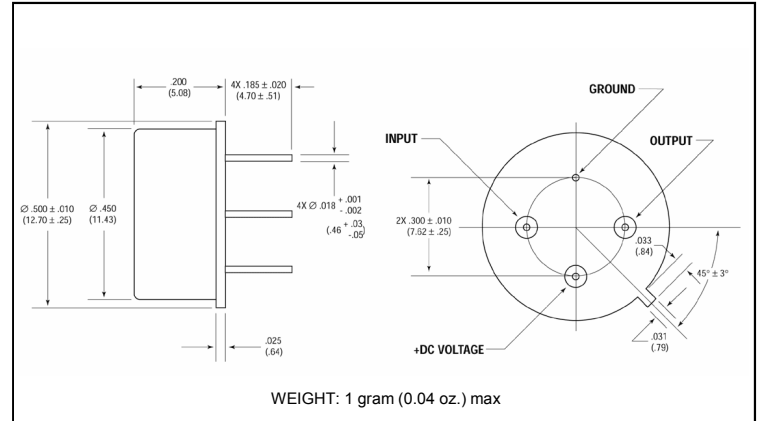
**A74-2/ SMA74-2**

V2

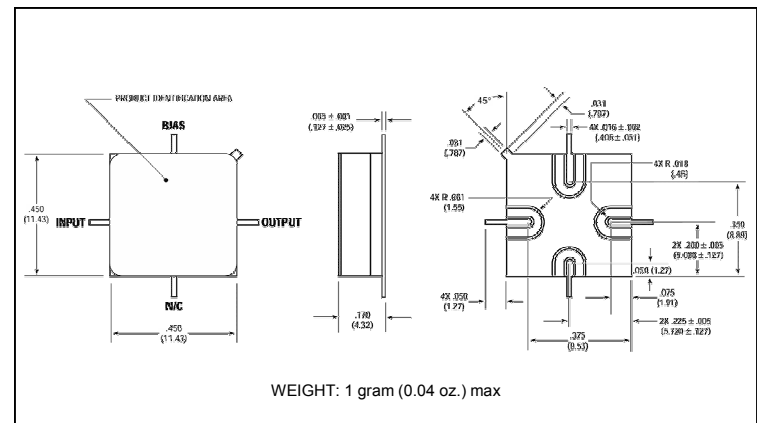
**Typical Performance Curves at +25°C**



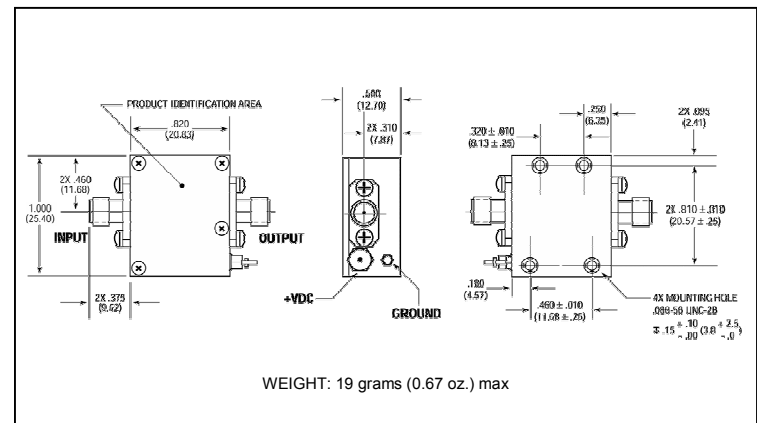
**Outline Drawing: TO-8 \***



**Outline Drawing: Surface Mount \***



**Outline Drawing: SMA Connectorized \***



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