

## Features

- HIGH GAIN—TWO STAGES: 16 dB (TYP.)
- ULTRALOW PHASE DEVIATION FROM LINEARITY:  $<\pm 3^\circ$ ; 500-200 MHz
- LOW VSWR:  $<1.5:1$  (TYP.)
- MEDIUM LEVEL OUTPUT: +7 dBm (TYP.)

## Description

The A34 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.

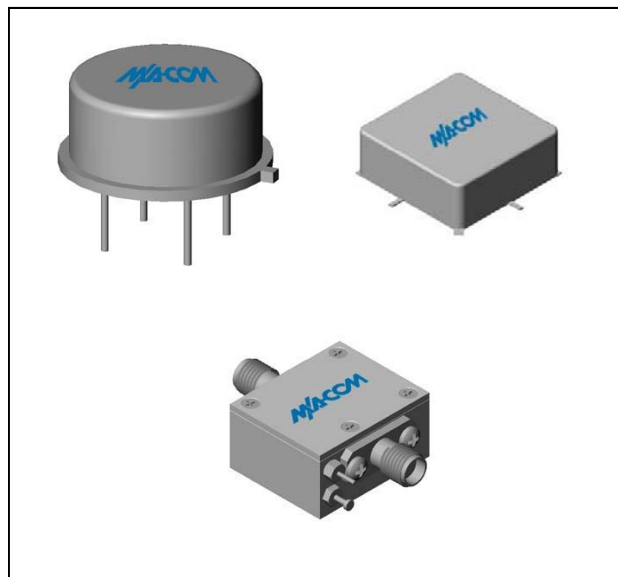
Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available

## Ordering Information

Part Number	Package
A34	TO-8
SMA34	Surface Mount
CA34 **	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	30-2100	100-2000	100-2000
Small Signal Gain (min)	dB	16.0	15.0	14.
Gain Flatness (max)	dB	$\pm 0.5$	$\pm 0.7$	$\pm 1.0$
Reverse Isolation	dB	30		
Noise Figure (max)	dB	5.5	6.5	7.0
Power Output @ 1 dB comp. (min)	dBm	7.0	6.0	5.0
IP3	dBm	+18		
IP2	dBm	+42		
Second Order Harmonic IP	dBm	+46		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.9:1 / 1.9:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	35	39	41

## Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	+125°C
DC Voltage	+20 V
Continuous Input Power	+10 dBm
Short Term Input power (1 minute max.)	50 mW
Peak Power (3 $\mu$ sec max.)	0.5 W
"S" Series Burn-In Temperature (case)	+125°C

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

Parameter	Rating
Thermal Resistance $\theta_{jc}$	160°C/W
Transistor Power Dissipation $P_d$	0.178 W
Junction Temperature Rise Above Case $T_{jc}$	28°C

\* Over temperature performance limits for part number CA34, guaranteed from 0°C to +50°C only.

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**PRELIMINARY:** Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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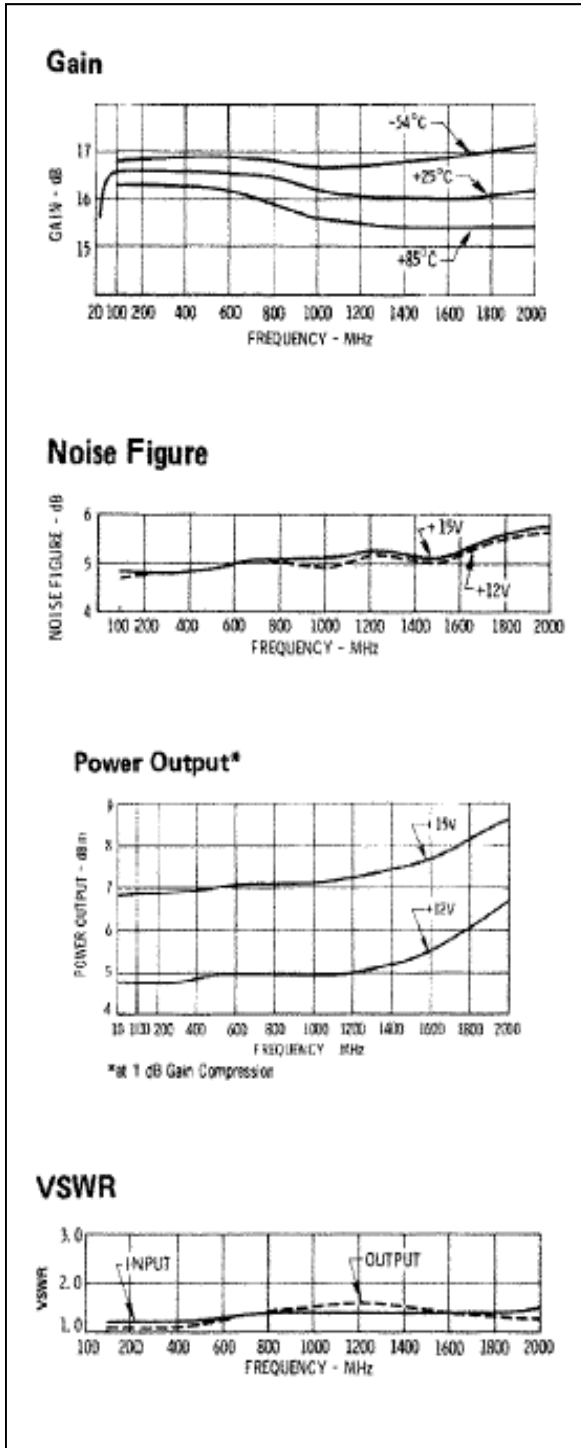
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# A34 / SMA34

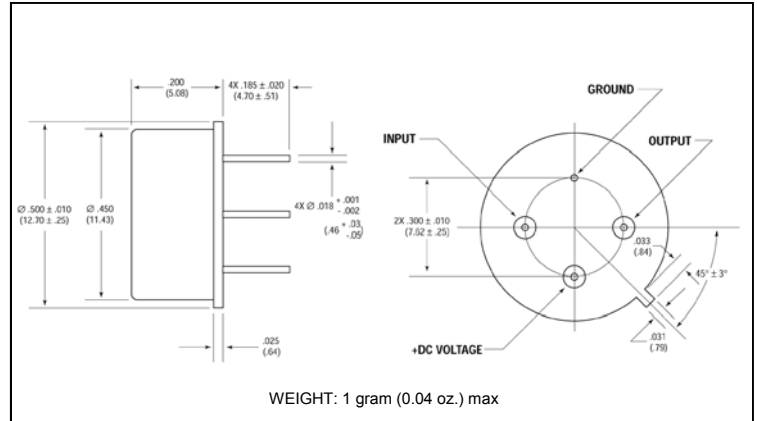
Cascadable Amplifier  
100 to 2000 MHz

Rev. V4

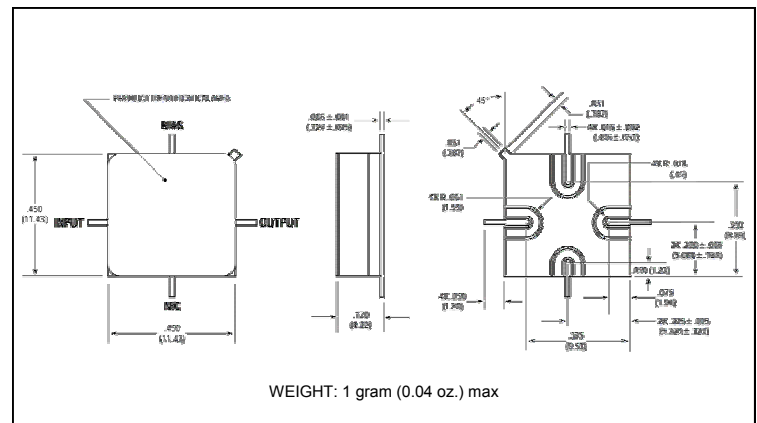
## Typical Performance Curves at +25°C



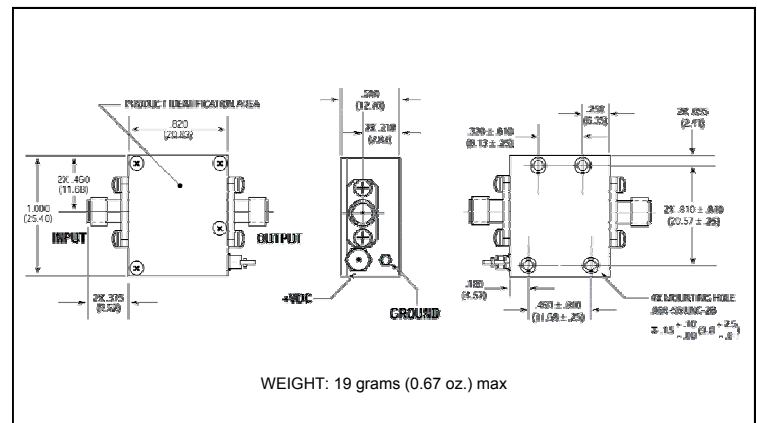
## Outline Drawing: TO-8 \*



## Outline Drawing: Surface Mount \*



## Outline Drawing: SMA Connectorized \*



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

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