A34 / SMA34

Cascadable Amplifier
100 to 2000 MHz

Rev. V4

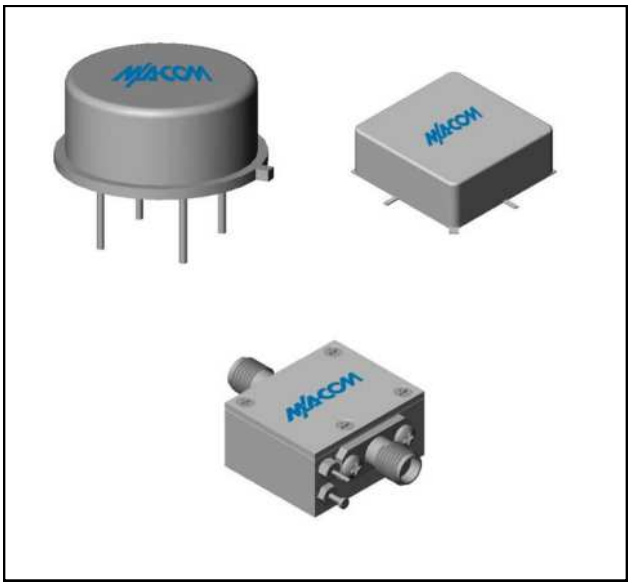
Features

- HIGH GAIN—TWO STAGES: 16 dB (TYP.)
- ULTRALOW PHASE DEVIATION FROM LINEARITY: <±3^{O} ; 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

Product Image



Ordering Information

Part Number	Package
A34	TO-8
SMA34	Surface Mount
CA34 **	SMA Connectorized

** The connectorized version is not RoHs compliant.

Electrical Specifications: Z_0 = 50Ω, V_{CC} = +15 V_{DC}

Parameter	Units	Typical	Guaranteed	
		25ºC	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	30-2100	100-2000	100-2000
Small Signal Gain (min)	dB	16.0	15.0	14.
Gain Flatness (max)	dB	±0.5	±0.7	±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	-62ºC to +125ºC
Case Temperature	+125ºC
DC Voltage	+20 V
Continuous Input Power	+10 dBm
Short Term Input power (1 minute max.)	50 mW
Peak Power (3 µsec max.)	0.5 W
"S" Series Burn-In Temperature (case)	+125ºC

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

Parameter	Rating
Thermal Resistance θ_{jc}	160ºC/W
Transistor Power Dissipation P_d	0.178 W
Junction Temperature Rise Above Case T_{jc}	28ºC

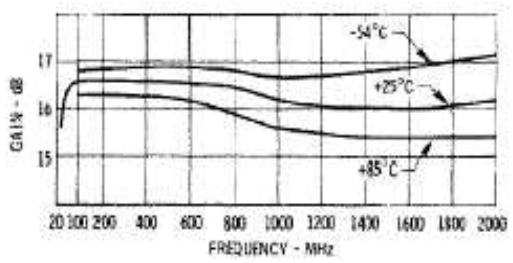
* Over temperature performance limits for part number CA34, guaranteed from 0°C to +50°C only.

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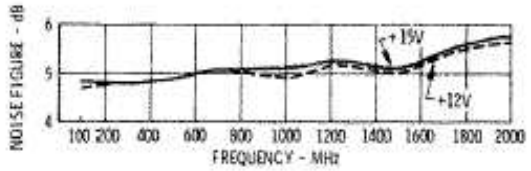
For further information and support please visit:
https://www.macom.com/support

Typical Performance Curves at +25°C

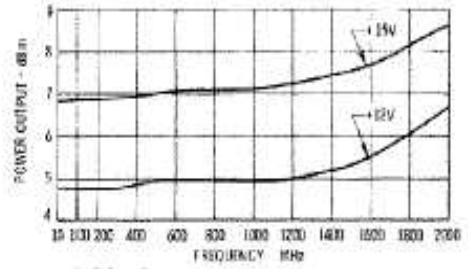
Gain



Noise Figure

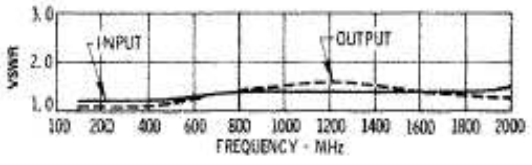


Power Output*

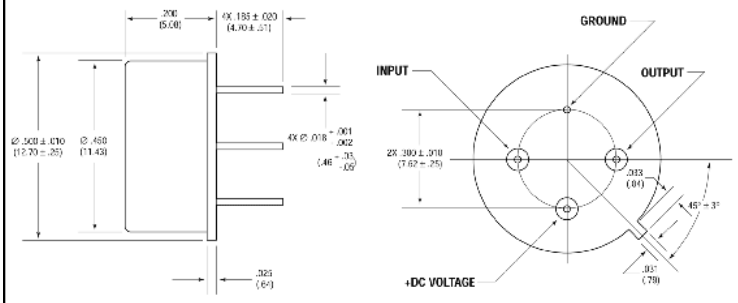


*at 1 dB Gain Compression

VSWR

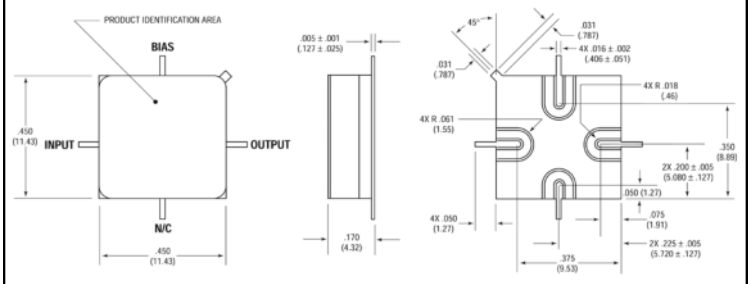


Outline Drawing: TO-8 *



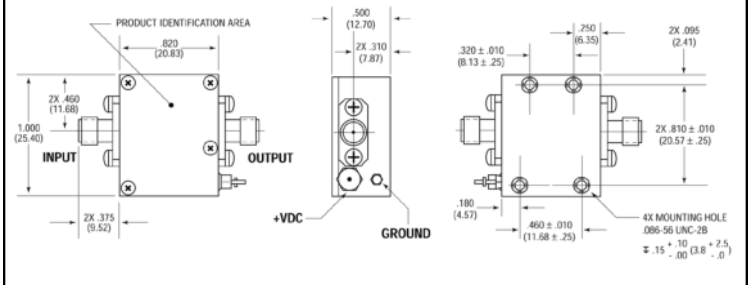
WEIGHT: 1 gram (0.04 oz.) max

Outline Drawing: Surface Mount *



WEIGHT: 1 gram (0.04 oz.) max

Outline Drawing: SMA Connectorized *



WEIGHT: 19 grams (0.67 oz.) max

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

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