# A34 / SMA34

### Cascadable Amplifier 100 to 2000 MHz



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

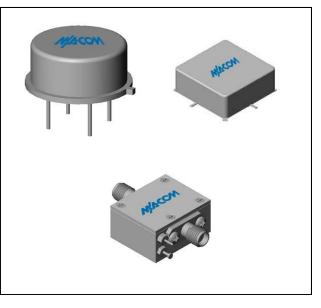
Part Number	Package	
A34	TO-8	
SMA34	Surface Mount	
CA34 **	SMA Connectorized	

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

### Electrical Specifications: $Z_0 = 50\Omega$ , $V_{CC} = +15 V_{DC}$

Guaranteed Typical Parameter Units 25°C 0º to 50ºC -54º to +85ºC\* Frequency MHz 30-2100 100-2000 100-2000 Small Signal Gain (min) dB 16.0 15.0 14. ±0.7 Gain Flatness (max) dB +0.5+1.0**Reverse Isolation** dB 30 Noise Figure (max) dB 7.0 5.5 6.5 Power Output 70 6.0 5.0 dBm @ 1 dB comp. (min) IP3 dBm +18 IP2 dBm +42 Second Order Harmonic IP dBm +46VSWR 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) mΑ 35 39 41

### Product Image



### 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 50 mW (1 minute max.) Peak Power (3 µsec max.) 0.5 W "S" Series Burn-In +125°C Temperature (case)

Absolute Maximum Ratings

### Thermal Data: V<sub>CC</sub> = +15 V<sub>DC</sub>

Parameter	Rating
Thermal Resistance $\theta_{jc}$	160°C/W
Transistor Power Dissipation Pd	0.178 W
Junction Temperature Rise Above Case T <sub>jc</sub>	28°C

ained herein without notice.

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

1

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.

• North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400 • India Tel: +91.80.4155721 • China Tel: +86.21.2407.1588 Visit www.macomtech.com for additional data sheets and product information.

MA-COM Technology Solutions no and its affiliates reserve the right to make

ormation con

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

may be available Commitment to produce in volume is not gu

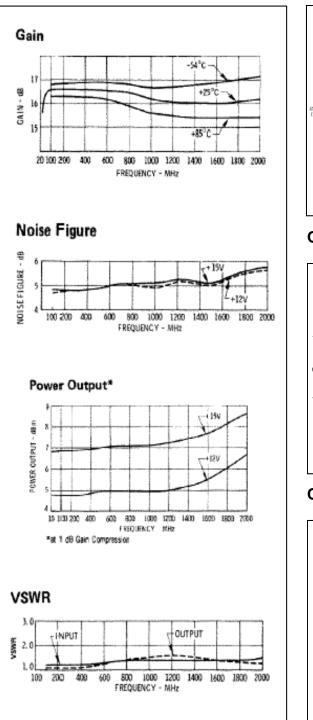


Rev. V4

# A34 / SMA34

# Cascadable Amplifier 100 to 2000 MHz

### Typical Performance Curves at +25°C



2

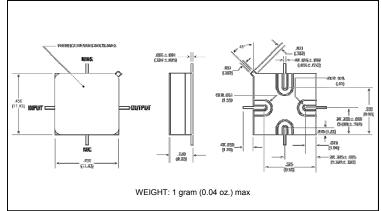


Rev. V4

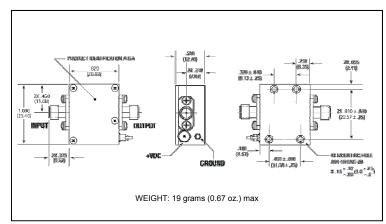
# $\begin{array}{c} & & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & &$

### Outline Drawing: Surface Mount

Outline Drawing: TO-8<sup>\*</sup>



## Outline Drawing: SMA Connectorized



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

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions • North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400 is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed. • China Tel: +86.21.2407.1588 • India Tel: +91.80.4155721 Visit www.macomtech.com for additional data sheets and product information. PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are tions no and to affiliates reserve the right to make typical. Mechanical outline has been fixed. Engineering samples may be available M/A-COM Technology So Commitment to produce in volume is not gu ormation contained herein without notice. cn: ng