# **RA36 / SMRA36**

## **Cascadable Amplifier** 100 to 2000 MHz

#### Features

- HIGH GAIN-THREE STAGES: 24.0 dB (TYP.) •
- LOW VSWR: 1.4:1 (TYP.)
- MEDIUM OUTPUT LEVEL: +13.0 dBm (TYP.)
- WIDE BANDWIDTH: 50-2100 MHz (TYP.)

#### Description

The RA36 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for consistent performance and high reliability.

This 3 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-8B and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

#### Ordering Information

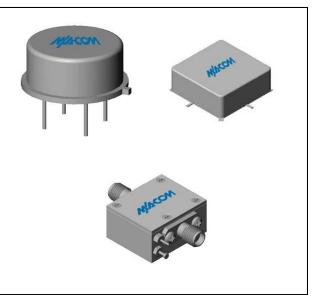
Part Number	Package	
RA36	TO-8B	
SMRA36	Surface Mount	
CRA36 **	SMA Connectorized	

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

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

Deremeter	Units	Typical	Guaranteed	
Parameter		25⁰C	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	50-2100	0.1-2.0 GHz	0.1-2.0 GHz
Small Signal Gain (min)	dB	24.0	23.0	22.0
Gain Flatness (max)	dB	±0.5	±0.9	±1.0
Reverse Isolation	dB	40		
Noise Figure (max)	dB	5.5	6.5	7.0
Power Output @ 1 dB comp. (min)	dBm	13.0	12.0	11.5
IP3	dBm	+22		
IP2	dBm	+34		
Second Order Harmonic IP	dBm	+40		
VSWR Input / Output (max)		1.4:1 / 1.4:1	1.8:1 / 1.8:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	76	81	85

### Product Image



#### Absolute Maximum Ratings

Parameter	Absolute Maximum	
Storage Temperature	-62°C to +125°C	
Case Temperature	125°C	
DC Voltage	+17 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)	125°C	

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

Parameter	Rating
Thermal Resistance $\theta_{jc}$	160°C/W
Transistor Power Dissipation $P_d$	0.287 W
Junction Temperature Rise Above Case T <sub>jc</sub>	46°C

\* Over temperature performance limits for part number CRA36, guaranteed from 0°C to +50°C only.

may be available

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. PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology

• 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.

Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples Commitment to produce in volume is not gu

1

MA-COM Technology Solutions no and its affiliates reserve the right to make ormation con a ined herein without notice. chi ng

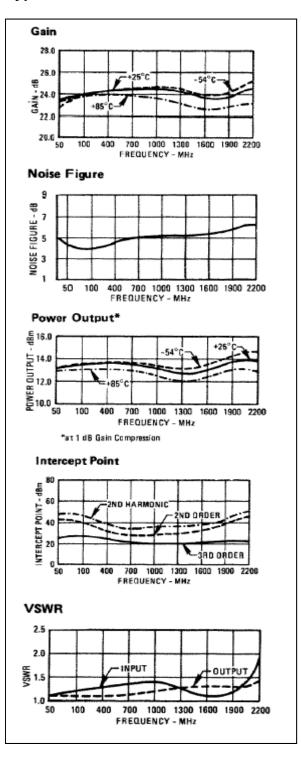


Rev. V3

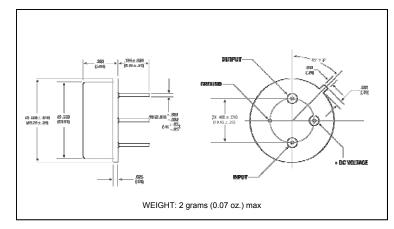
# **RA36 / SMRA36**

# Cascadable Amplifier 100 to 2000 MHz

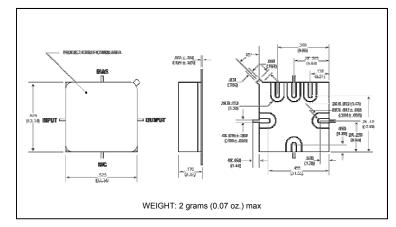
#### Typical Performance Curves at +25°C



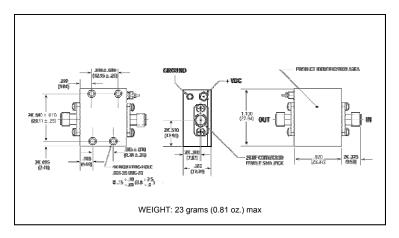
# Outline Drawing: TO-8B \*



### Outline Drawing: Surface Mount



# 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 is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed. 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 motioner to retroarmative protocomment of product information. Specifications are to produce in volume is not guaranteed.



Rev. V3

2