

Cascadable Amplifier
10 to 500 MHz

RA76/SMRA76

V2

Features

- HIGH GAIN-THREE STAGES 40.5 dB (TYP.)
- LOW NOISE <3.0 dB (TYP.)
- MEDIUM OUTPUT LEVEL +15 dBm (TYP.)
- HIGH REVERSE ISOLATION >50 dB (TYP.)

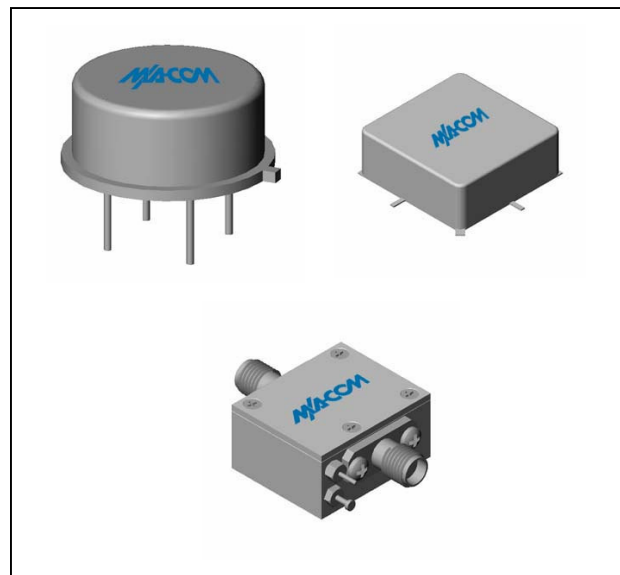
Description

The RA76 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.

Product Image



Ordering Information

Part Number	Package
RA76	TO-8B
SMRA76	Surface Mount
CRA76	SMA Connectorized

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	5-550	10-500	10-500
Small Signal Gain (min)	dB	40.5	38.5	37.5
Gain Flatness (max)	dB	±0.6	±0.9	±1.2
Reverse Isolation	dB	52		
Noise Figure (max)	dB	3.0	3.8	4.3
Power Output @ 1 dB comp. (min)	dBm	15.0	13.3	12.3
IP3	dBm	+26		
IP2	dBm	+35		
Second Order Harmonic IP	dBm	+42		
VSWR Input / Output (max)		1.3:1 / 1.3:1	1.8:1 / 1.8:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	81	85	87

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	125°C
DC Voltage	+17 V
Continuous Input Power	+6 dBm
Short Term Input power (1 minute max.)	100 mW
Peak Power (3 µsec max.)	0.5 W
"S" Series Burn-In Temperature (case)	125°C

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

Parameter	Rating
Thermal Resistance θ_{jc}	45°C/W
Transistor Power Dissipation P_d	0.371 W
Junction Temperature Rise Above Case T_{jc}	17°C

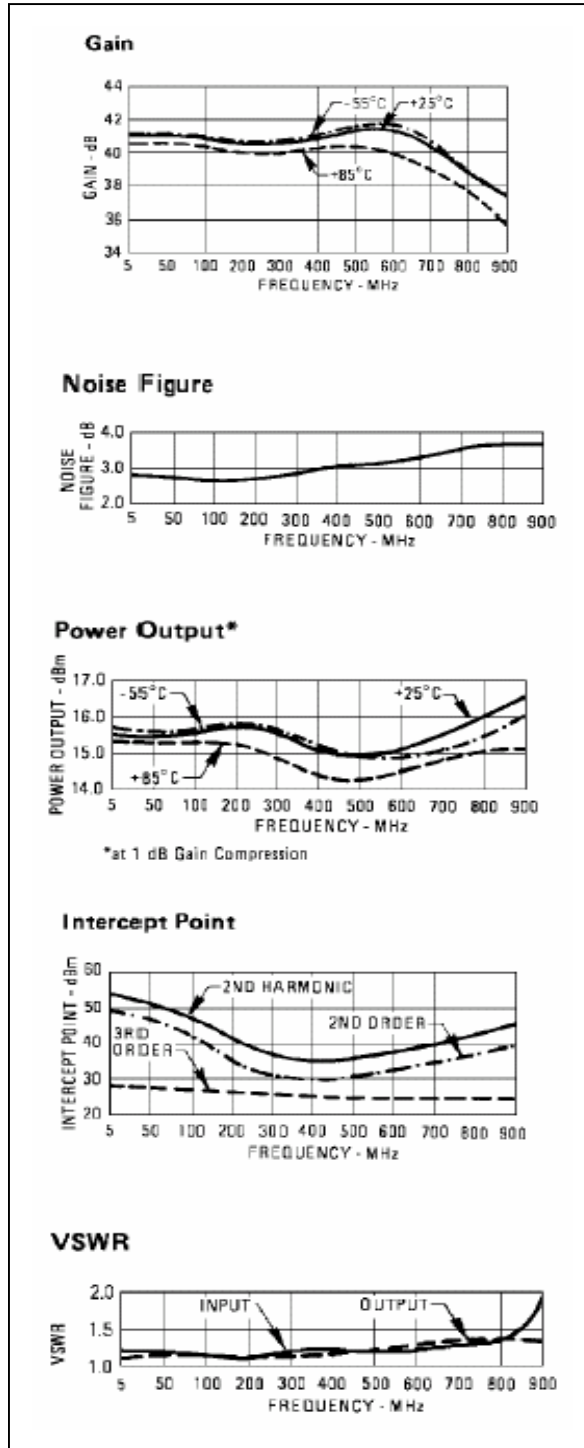
* Over temperature performance limits for part number CRA76, guaranteed from 0°C to +50°C only.

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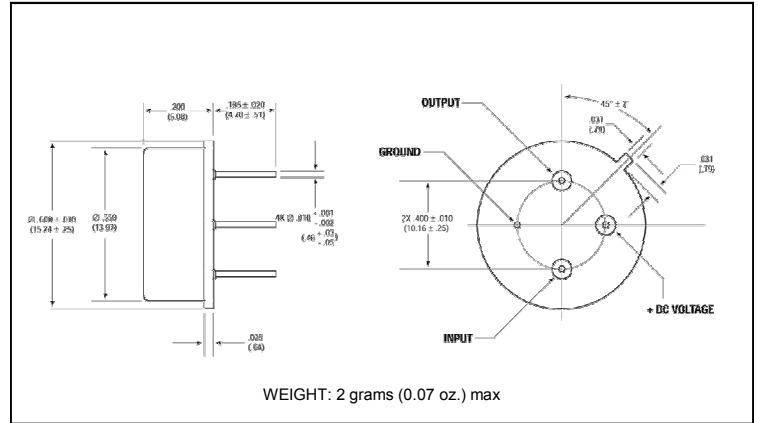
RA76/SMRA76

V2

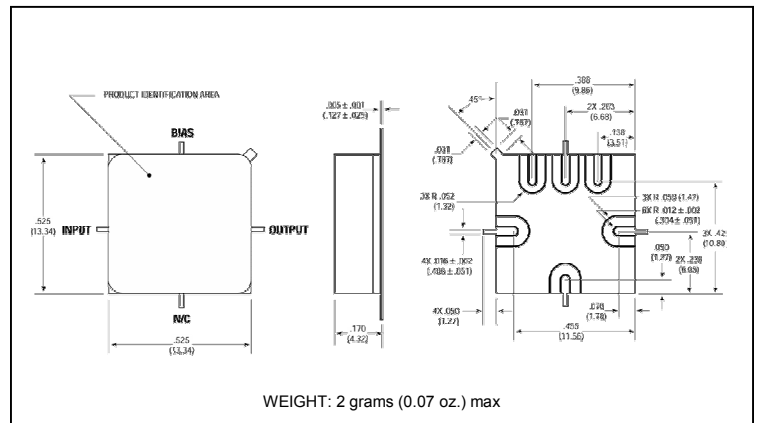
Typical Performance Curves at +25°C



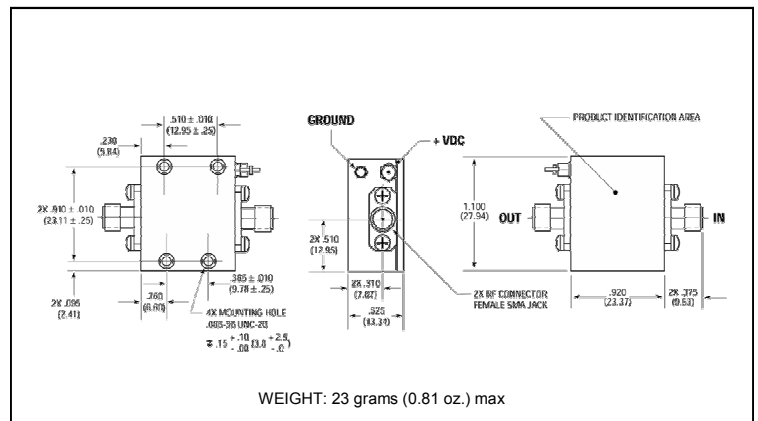
Outline Drawing: TO-8B *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



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