

**Cascadable Amplifier  
2000 to 6000 MHz**

**RA63-1 / SMRA63-1**

V1

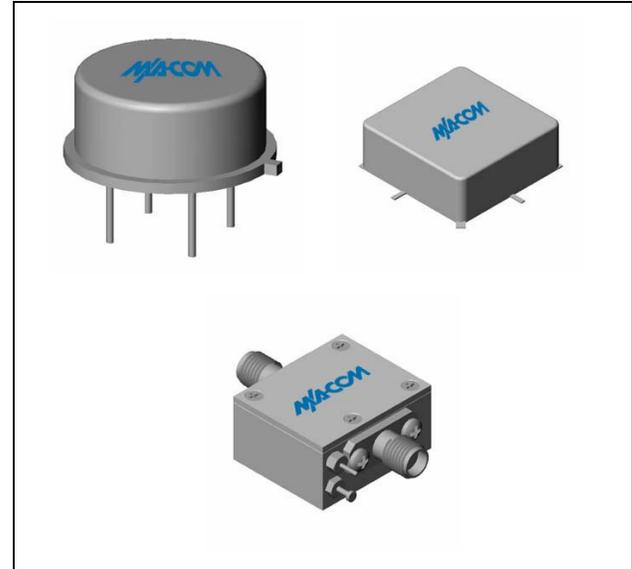
**Features**

- ULTRAWIDE BANDWIDTH: 1.8-6.2 GHz (TYP.)
- HIGH GAIN: 19.5 dB (TYP.)
- HIGH OUTPUT POWER: +16.0 dBm (TYP)
- LOW POWER SUPPLY VOLTAGE: +5 Vdc

**Description**

The RA63-1 microwave amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability. This two stage GaAs FET feedback amplifier design displays impressive performance characteristics over a broadband frequency range. 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
RA63-1	TO-8B
SMRA63-1	Surface Mount
CRA63-1	SMA Connectorized

**Electrical Specifications:  $Z_0 = 50\Omega$ ,  $V_{CC} = +5 V_{DC}$**

Parameter	Units	Typical	Guaranteed	
		25°C	0° to 50°C	-54° to +85°C*
Frequency	GHz	1.8-6.2	2.0-6.0	2.0-6.0
Small Signal Gain (min)	dB	22.0	19.0	18.0
Gain Flatness (max)	dB	±0.5	±1.0	±1.2
Reverse Isolation	dB	50		
Noise Figure (max)	dB	5.5	7.0	7.5
Power Output @ 1 dB comp. (min)	dBm	16.0	13.0	12.5
IP3	dBm	+32		
IP2	dBm	+50		
Second Order Harmonic IP	dBm	+54		
VSWR Input / Output (max)		1.7:1 / 1.7:1	2.2:1 / 2.0:1	2.3:1 / 2.1:1
DC Current @ 5 Volts (max)	mA	120	135	140

**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Storage Temperature	-64°C to +125°C
Case Temperature	+125°C
DC Voltage	+6 V
Continuous Input Power	+7 dBm
Short Term Input power (1 minute max.)	100 mW
Peak Power (3 µsec max.)	0.25 W
"S" Series Burn-In Temperature (case)	+125°C

**Thermal Data:  $V_{CC} = +5 V_{DC}$**

Parameter	Rating
Thermal Resistance $\theta_{jc}$	185°C/W
Transistor Power Dissipation $P_d$	0.203 W
Junction Temperature Rise Above Case $T_{jc}$	+38°C

\* Over temperature performance limits for part number CRA63-1, guaranteed from 0°C to +50°C only.

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