



Cascadable Amplifier 10 to 1000 MHz

A19-1 / SMA19-1

V3

Features

HIGH OUTPUT POWER: +22.5 dBm (TYP.)
HIGH THIRD ORDER I.P.: +35 dBm (TYP.)
MEDIUM NOISE FIGURE: 6.0 dB (TYP.)

Description

The A19-1 RF amplifier is a discrete thin film hybrid design, which incorporates the use of thin film manufacturing processes for accurate performance and high reliability.

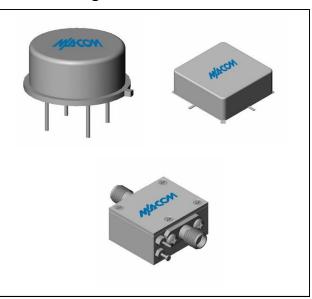
This single stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. An active DC biasing network is used for temperature-stable performance, in addition to an RF Choke, used for power supply decoupling.

Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

Ordering Information

Part Number	Package		
A19-1	TO-8		
SMA19-1	Surface Mount		
CA19-1	SMA Connectorized		

Product Image



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	10-1100	10-1000	10-1000
Small Signal Gain (min)	dB	11.5	10.5	10.0
Gain Flatness (max)	dB	±0.2	±0.6	±0.8
Reverse Isolation	dB	16		
Noise Figure (max)	dB	5.5	6.5	7.0
Power Output @ 1 dB comp. (min)	dBm	22.5	20.5	20.0
IP3	dBm	+35		
IP2	dBm	+51		
Second Order Harmonic IP	dBm	+58		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.7:1 / 1.7:1	2.0:1 / 2.3:1
DC Current @ 15 Volts (max)	mA	90	94	99

Absolute Maximum Ratings

Parameter	Absolute Maximum	
Storage Temperature	-62°C to +125°C	
Case Temperature	+125°C	
DC Voltage	+17 V	
Continuous Input Power	+13 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}	100°C/W	
Transistor Power Dissipation P _d	0.907 W	
Junction Temperature Rise Above Case T _{jc}	+91°C	

^{*} Over temperature performance limits for part number CA19-1, guaranteed from 0°C to +50°C only.

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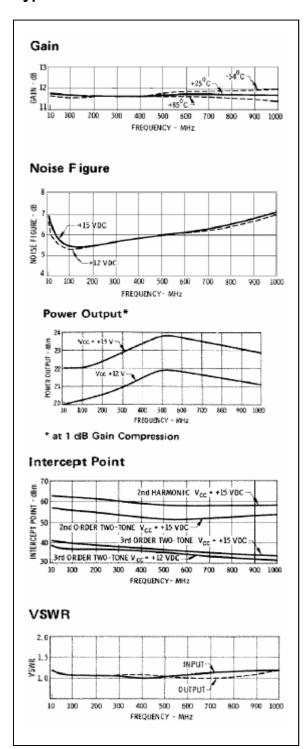




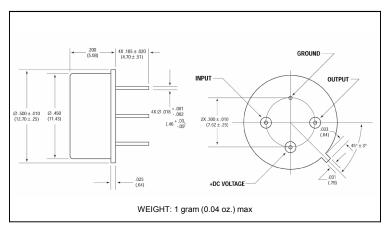
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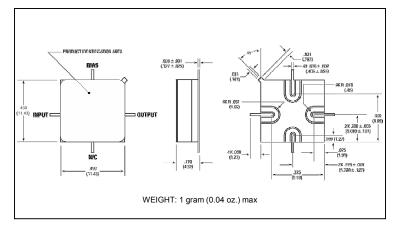
Typical Performance Curves at +25°C



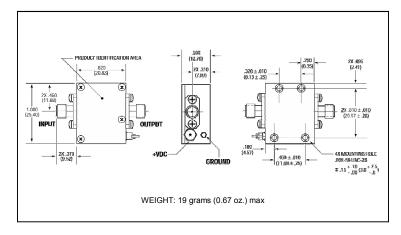
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount



Outline Drawing: SMA Connectorized *



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