A32 / SMA32

Cascadable Amplifier
100 to 2000 MHz

Rev. V4

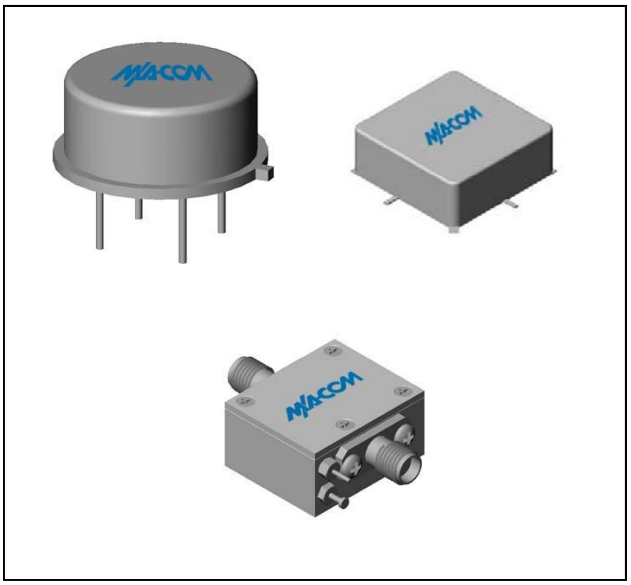
Features

- LOW NOISE FIGURE: 3.5 dB (TYP.)
- HIGH THIRD ORDER IP: +32 dBm (TYP.)
- HIGH OUTPUT LEVEL: +21 dBm (TYP.)
- LOW VSWR: 1.8:1 (TYP.)

Description

The A32 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.
This single stage GaAs FET feedback amplifier design displays impressive performance characteristics over a broadband frequency range. An RF choke is used for DC power supply decoupling.
Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

Product Image



Ordering Information

Part Number	Package
A32	TO-8
SMA32	Surface Mount
CA32	SMA Connectorized

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

Parameter	Units	Typical	Guaranteed	
		25ºC	0º to 50ºC	-54º to +85ºC*
Frequency	MHz	10-2000	10-2000	10-2000
Small Signal Gain (min)	dB	10.0	9.0	8.5
Gain Flatness (max)	dB	±3.0	±0.7	±1.0
Reverse Isolation	dB	20		
Noise Figure (max)	dB	3.5	4.0	4.5
Power Output @ 1 dB comp. (min)	dBm	21.0	19.0	18.0
IP3	dBm	+32		
IP2	dBm	+38		
Second Order Harmonic IP	dBm	+40		
VSWR Input / Output (max)		1.8:1 / 1.8:1	2.1:1 / 2.1:1	2.3:1 / 2.3:1
DC Current @ 15 Volts (max)	mA	94	98	100

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62ºC to +125ºC
Case Temperature	+125ºC
DC Voltage	+17 V
Continuous Input Power	13 dBm
Short Term Input power (1 minute max.)	50 mW
Peak Power (3 µsec max.)	0.5 W
"S" Series Burn-In Temperature (case)	+125ºC

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

Parameter	Rating
Thermal Resistance θ_{jc}	182ºC/W
Transistor Power Dissipation P_d	0.288 W
Junction Temperature Rise Above Case T_{jc}	+52ºC

* Over temperature performance limits for part number CA32, guaranteed from 0°C to +50°C only.

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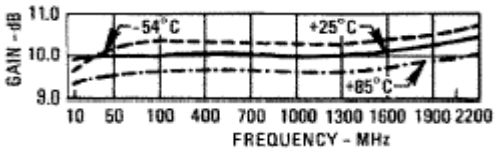
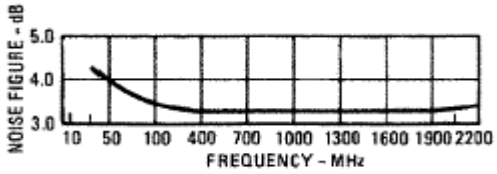
Typical Performance Curves at +25°C

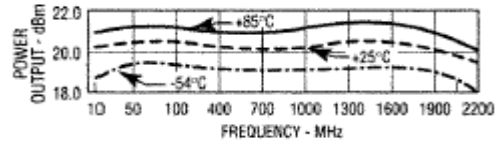
Gain



Noise Figure

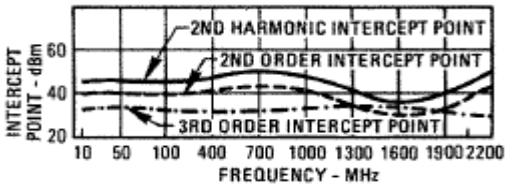


Power Output*

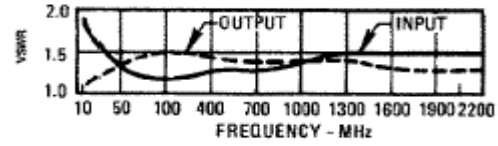


* at 1 dB Gain Compression

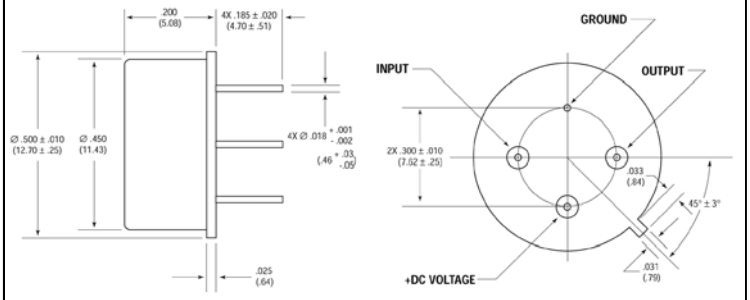
Intercept Point



VSWR

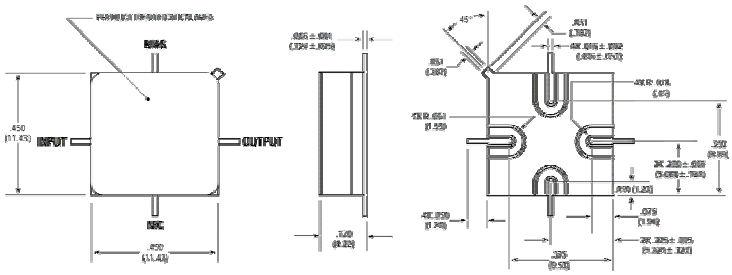


Outline Drawing: TO-8 *



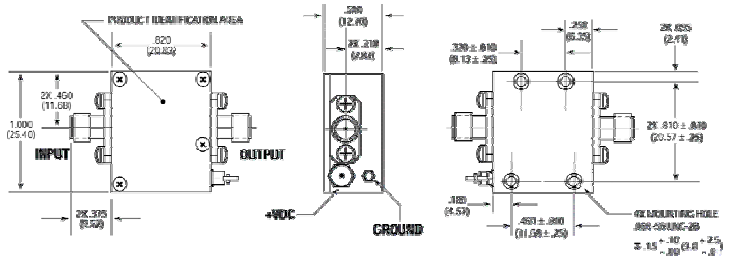
WEIGHT: 1 gram (0.04 oz.) max

Outline Drawing: Surface Mount *



WEIGHT: 1 gram (0.04 oz.) max

Outline Drawing: SMA Connectorized *



WEIGHT: 19 grams (0.67 oz.) max

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

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