A32-1 / SMA32-1

Cascadable Amplifier
100 to 2000 MHz

Rev. V3

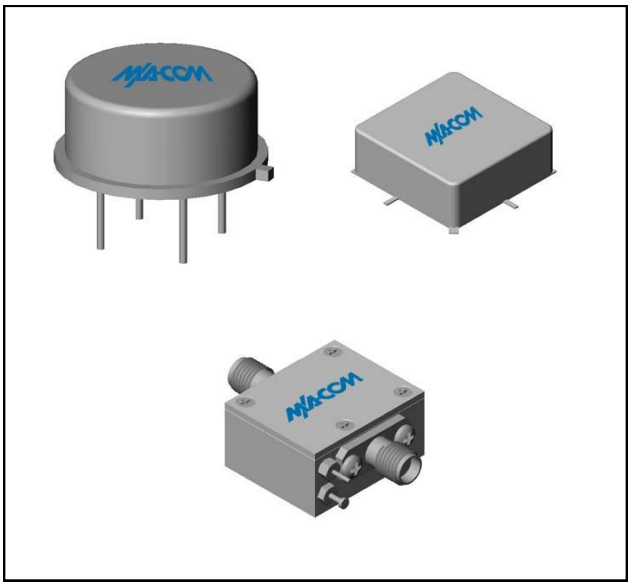
Features

- LOW NOISE FIGURE: 2.5 dB (TYP.)
- HIGH OUTPUT LEVEL: 15.5 dBm (TYP.)
- MEDIUM THIRD ORDER IP: +25.0 dBm (TYP.)
- GaAs FET DESIGN

Description

The A32-1 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
A32-1	TO-8
SMA32-1	Surface Mount
CA32-1 **	SMA Connectorized

** The connectorized version is not RoHs compliant.

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

Parameter	Units	Typical	Guaranteed	
		25ºC	0º to 50ºC	-54º to +85ºC*
Frequency	GHz	0.1-2.0	0.1-2.0	0.1-2.0
Small Signal Gain (min)	dB	11.5	9.0	8.5
Gain Flatness (max)	dB	±0.3	±0.7	±1.0
Reverse Isolation	dB	20		
Noise Figure (max)	dB	2.5	3.0	3.5
Power Output @ 1 dB comp. (min)	dBm	15.5	13.5	12.5
IP3	dBm	+25		
IP2	dBm	+30		
Second Order Harmonic IP	dBm	+37		
VSWR Input / Output (max)		1.8:1 / 1.8:1	2.1:1 / 2.1:1	2.3:1 / 2.3:1
DC Current @ 5 Volts (max)	mA	44	50	52

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62ºC to +125ºC
Case Temperature	+125ºC
DC Voltage	+8 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: $V_{CC} = +15\ V_{DC}$

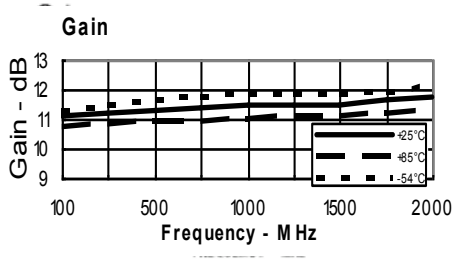
Parameter	Rating
Thermal Resistance θ_{jc}	165ºC/W
Transistor Power Dissipation P_d	0.111 W
Junction Temperature Rise Above Case T_{jc}	+16.2ºC

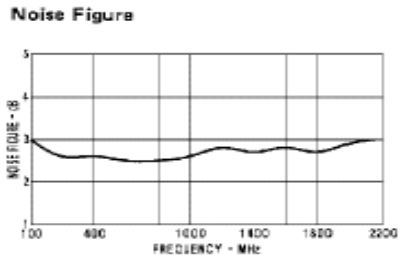
* Over temperature performance limits for part number CA32-1, guaranteed from 0°C to +50°C only.

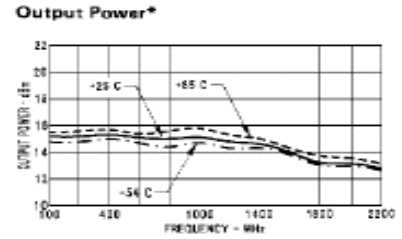
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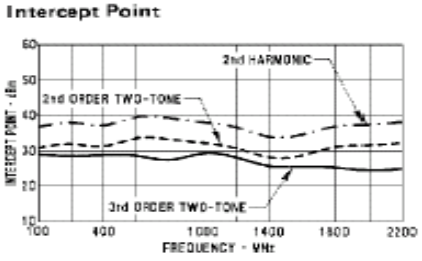
Typical Performance Curves at +25°C

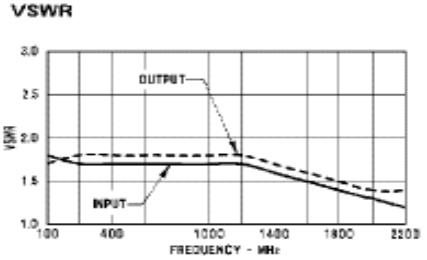




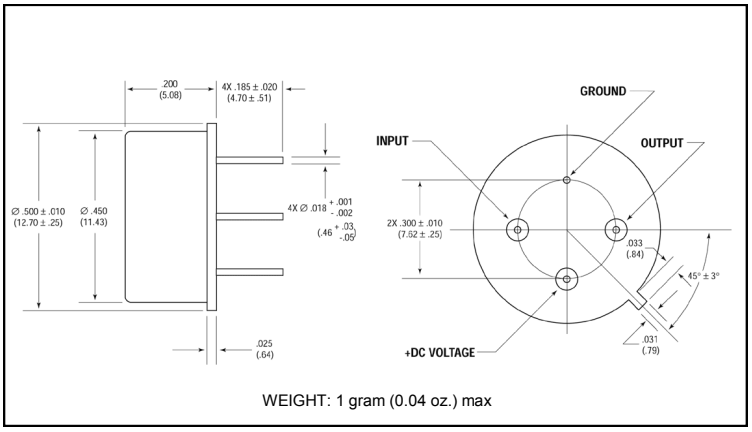


* at 1 dB Gain Compression



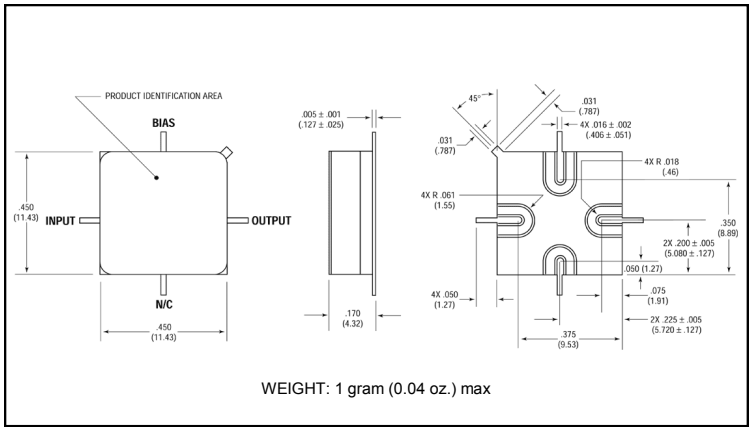


Outline Drawing: TO-8 *



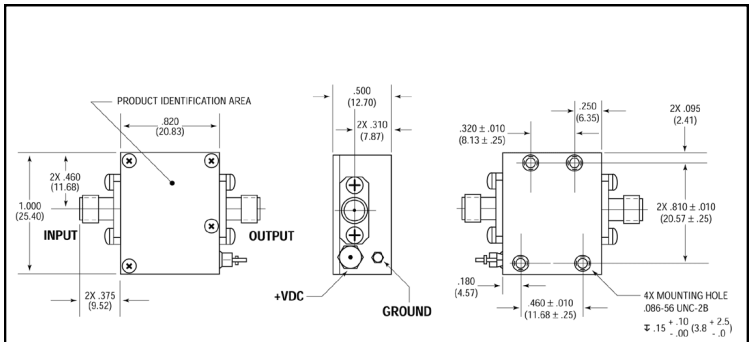
WEIGHT: 1 gram (0.04 oz.) max

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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