MAAM-007501-SA2002

Surface Mount TO-8 Cascadable Amplifier 20 to 2700 MHz

Rev. V3

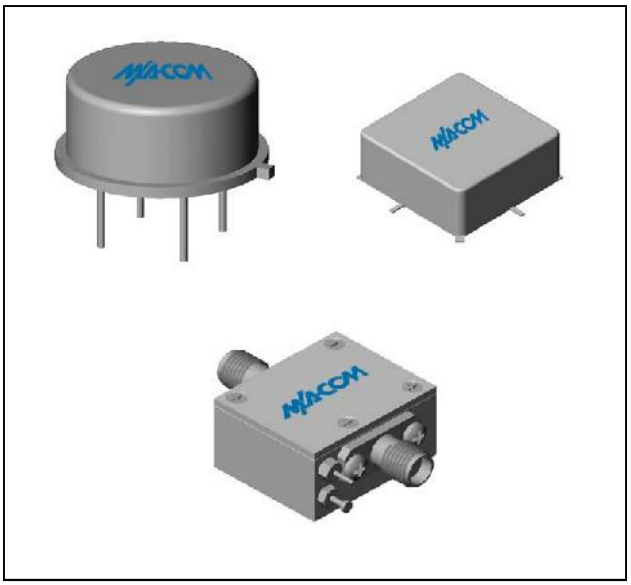
Features

- LOW NOISE FIGURE: 2.5 dB (TYP.)
- OUTPUT POWER: +27 dBm (TYP.)
- HIGH THIRD ORDER IP: +40.0 dBm (TYP.)

Description

The MAAM-007501-SA2002 amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.
This single stage PHEMT feedback amplifier design displays impressive performance over a broadband frequency range. The design also incorporates the use of an impedance transformer, and an RF choke is used for power supply decoupling. The Surface Mount package is hermetically sealed, and MIL-STD-883 environmental screening is available.

Product Image



Ordering Information

Part Number	Package
MAAM-007501-0A2002	TO-8
MAAM-007501-SA2002	Surface Mount
MAAM-007501-CA2002	SMA Connectorized **

** The connectorized version is not RoHs compliant.

Electrical Specifications: Z_0 = 50Ω, V_{CC} = +9 V_{DC}

Parameter	Units	Typical	Guaranteed	
		25ºC	0º to 50ºC	-40º to +85ºC*
Frequency	MHz	20-2700	20-2700	20-2700
Small Signal Gain (min)	dB	11.5	10.0	9.5
Gain Flatness (max)	dB	+/- 0.4	+/- 0.7	+/- 1.0
Noise Figure (max)	dB	2.5	4.0	5.0
Power Output @ 1 dB comp. (min)	dBm	+27.0	+25.0	+23.5
IP3	dBm	+40.0		
IP2	dBm	+55.0		
VSWR Input / Output (max)		1.7:1 / 1.7:1	2.0:1 / 2.0:1	2.2:1 / 2.2:1
DC Current @ 9 Volts (max)	mA	165	195	225

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62ºC to +125ºC
Case Temperature	+85ºC
DC Voltage	+12 V
Continuous Input Power	+17 dBm
Short Term Input power (1 minute max.)	50 mW
Peak Power (3 µsec max.)	0.5 W
"S" Series Burn-In Temperature (case)	+85ºC

Thermal Data: V_{CC} = +9 V_{DC}

Parameter	Rating
Thermal Resistance θ_{jc}	+51ºC/W
Transistor Power Dissipation P_d	1.2 W
Junction Temperature Rise Above Case T_{jc}	+61ºC

* Over temperature performance limits for part number MAAM-007501-CA2002, guaranteed from 0°C to +50°C only.

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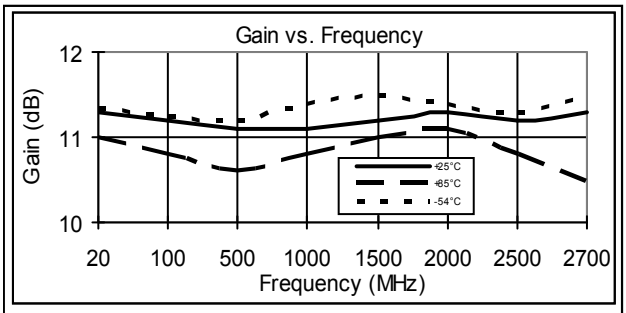
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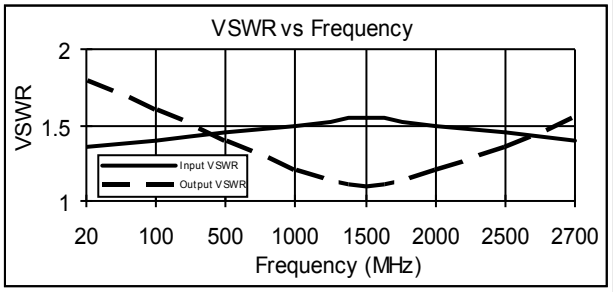
MAAM-007501-SA2002

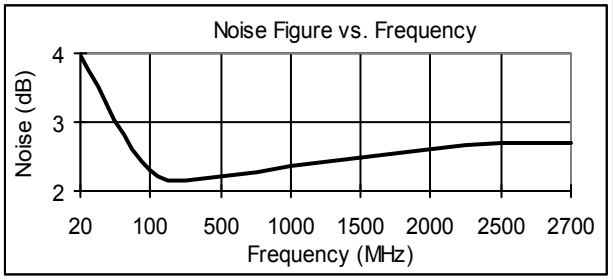
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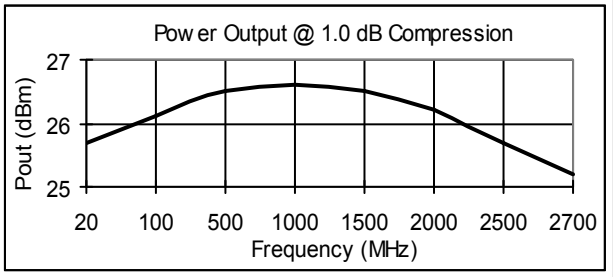
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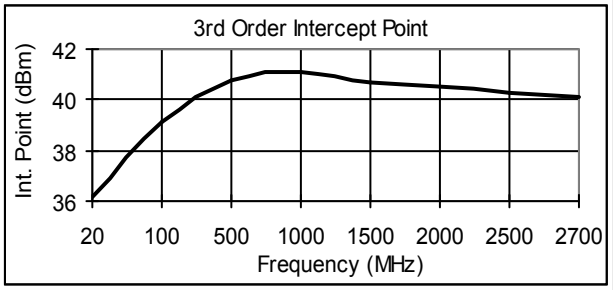
Typical Performance Curves at +25°C



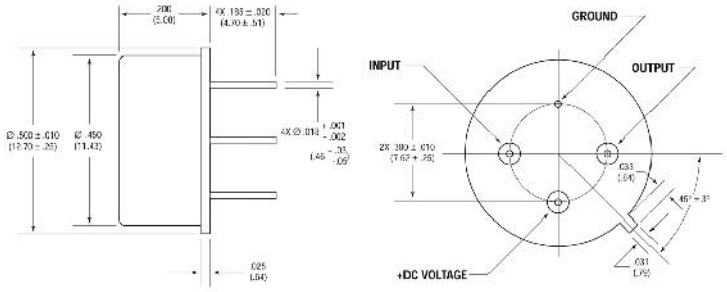






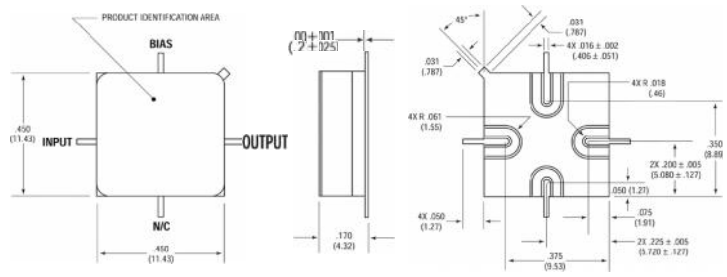


Outline Drawing: TO-8 *



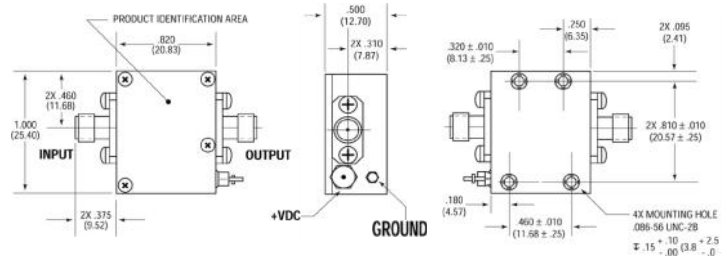
WEIGHT: 1 gram (0.04 oz.) max

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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