

Cascadable Amplifier 10 to 200 MHz

Rev. V4

Features

- HIGH REVERSE ISOLATION: >32 dB (TYP.)
- VERY LOW NOISE: 2.0 dB (TYP.)
- HIGH GAIN: 27.3 dB (TYP.)
- HIGH EFFICIENCY: 29 mA AT 15 VOLTS (TYP.)

Description

The A80-1 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for accurate performance and high reliability.

The 2 stage silicon bipolar feedback amplifier design displays impressive performance over a broadband frequency range.

An isolation transformer is used in the feedback loop, with the benefit of high reverse isolation.

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
A80-1	TO-8
SMA80-1	Surface Mount
MAAM-007844-0CA801	SMA Connectorized **

** The connectorized version is not RoHs compliant.

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	5-200	10-200	10-200
Small Signal Gain (min)	dB	27.3	26.0	25.0
Gain Flatness (max)	dB	±0.3	±0.7	±1.0
Reverse Isolation	dB	33		
Noise Figure (max)	dB	2.0	2.5	3.0
Power Output @ 1 dB comp. (min)	dBm	16.0	14.5	14.0
IP3	dBm	+28		
IP2	dBm	+33		
Second Order Harmonic IP	dBm	+39		
VSWR Input / Output (max)		1.5:1 / 1.8:1	1.8:1 / 2.1:1	2.0:1 / 2.3:1
DC Current @ 15 Volts (max)	mA	30	32	34

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62°C to +125°C
Case Temperature	125°C
DC Voltage	+17 V
Continuous Input Power	+10 dBm
Short Term Input power (1 minute max.)	50 mW
Peak Power (3 µsec max.)	0.5 W
"S" Series Burn-In Temperature (case)	125°C

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

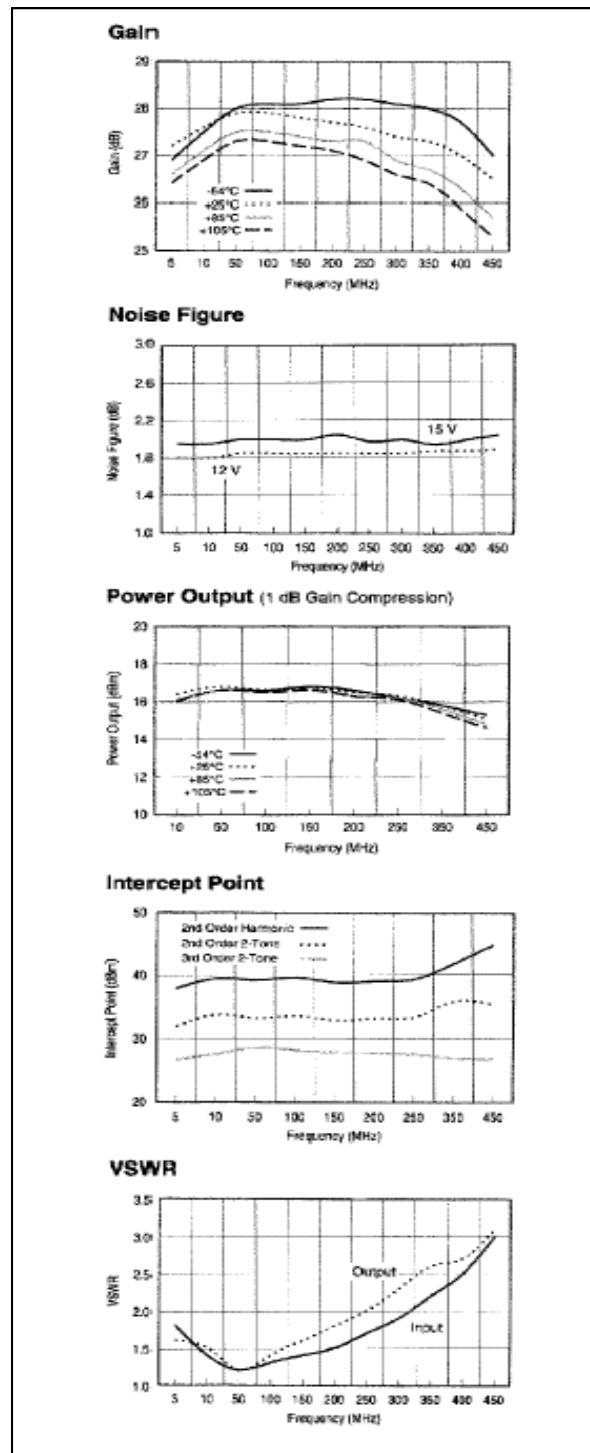
Parameter	Rating
Thermal Resistance θ_{jc}	184°C/W
Transistor Power Dissipation P_d	0.155 W
Junction Temperature Rise Above Case T_{jc}	28°C

1 * Over temperature performance limits for part number MAAM-007844-0CA801, guaranteed from 0°C to +50°C

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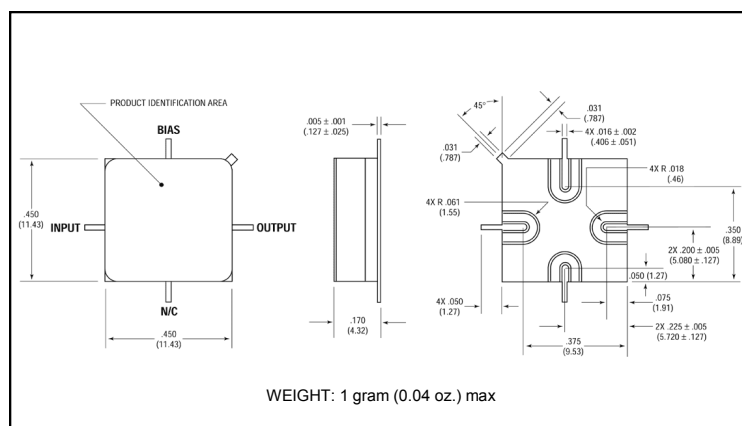
Typical Performance Curves at +25°C



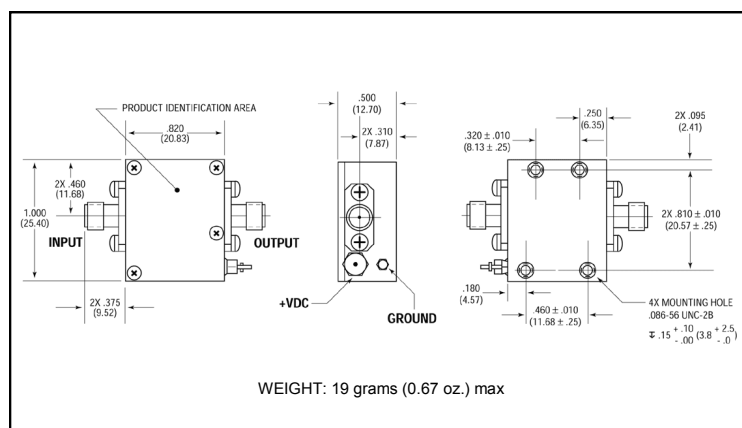
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



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

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