A26/SMA26

Cascadable Amplifier
10 to 1500 MHz

Rev. V5

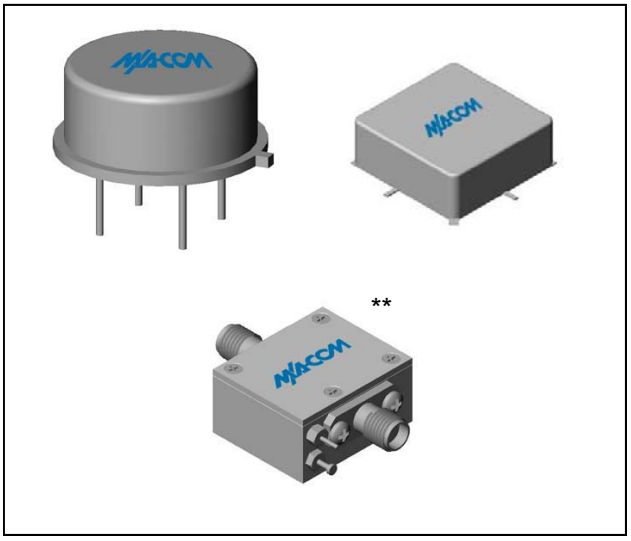
Features

- HIGH GAIN - TWO STAGES: 20.5 dB (TYP.)
- HIGH OUTPUT LEVEL: +15 dBm (TYP.)
- LOW VSWR: <1.4:1 (TYP.)

Description

The A26 RF amplifier is a discrete hybrid design, which uses thin film manufacturing processes for consistent performance and high reliability.
This 2 stage bipolar transistor feedback amplifier design displays impressive performance over a broadband frequency range. An active DC biasing network insures temperature-stable performance. Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available.

Product Image



** The connectorized version is not RoHs compliant.

Ordering Information

Part Number	Package
A26	TO-8
SMA26	Surface Mount
CA26	SMA Connectorized **

Electrical Specifications: Z_0 = 50Ω, V_{CC} = +15 V_{DC}

Parameter	Units	Typical	Guaranteed	
		25ºC	0º to 50ºC	-54º to +85ºC[1]
Frequency	MHz	10-1600[2]	10-1500[2]	10-1500[2]
Small Signal Gain (min)	dB	20.5	19.0	18.5
Gain Flatness (max)	dB	±0.4	±0.6	±0.8
Reverse Isolation	dB	28		
Noise Figure (max)	dB	5.0	5.5	6.0
Power Output 10-1000MHz @ 1 dB comp. (min)	dBm	14.0	+13.0	+12.50
Power Output 1000-1500MHz @ 1 dB comp. (min)	dBm	16.0	+15.0	+14.50
IP3	dBm	+27		
IP2	dBm	+45		
Second Order Harmonic IP	dBm	+51		
VSWR Input / Output (max)		1.4:1 / 1.4:1	1.7:1 / 1.7:1	2.0:1 / 2.3:1
DC Current @ 15 Volts (max)	mA	64	67	70

Absolute Maximum Ratings

Parameter	Absolute Maximum
Storage Temperature	-62ºC to +125ºC
Case Temperature	+125ºC
DC Voltage	+17 V
Continuous Input Power	+10 dBm
Short Term Input power (1 minute max.)	100 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}	145ºC/W
Transistor Power Dissipation P_d	0.394 W
Junction Temperature Rise Above Case T_{jc}	+57ºC

1. Over temperature performance limits for part number CA26, guaranteed from 0°C to +50°C only.
2. Specifications apply across frequency range unless otherwise specified

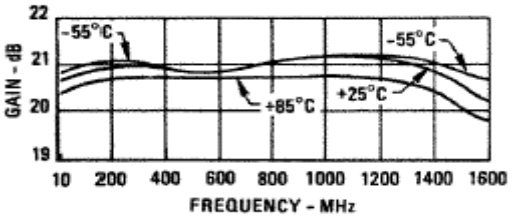
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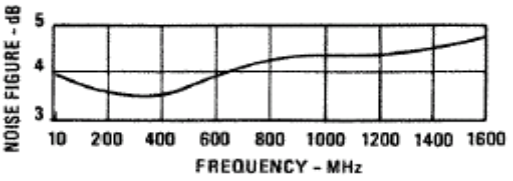
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Typical Performance Curves at +25°C

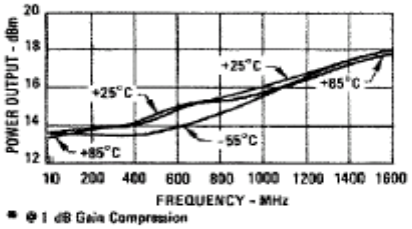
Gain



Noise Figure

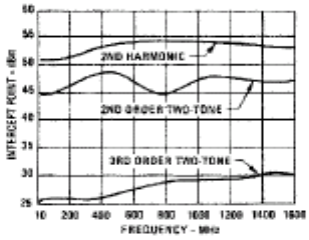


Power Output*

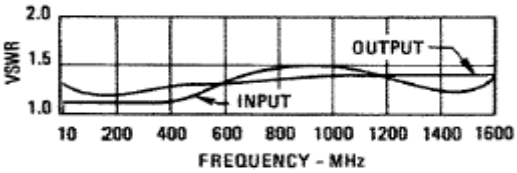


* @ 1 dB Gain Compression

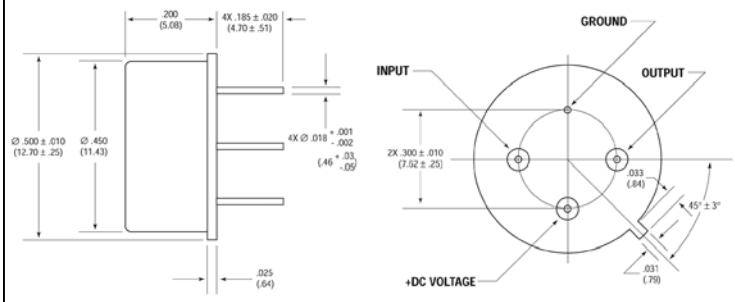
Intercept Point



VSWR

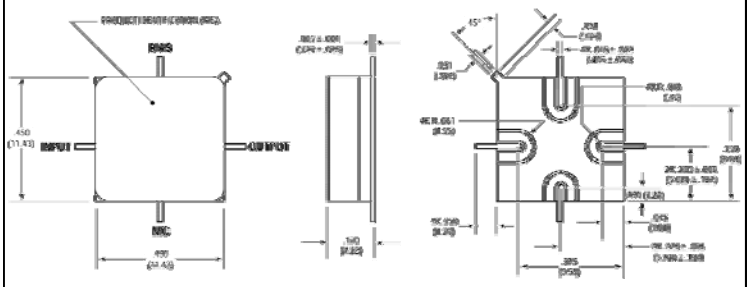


Outline Drawing: TO-8 *



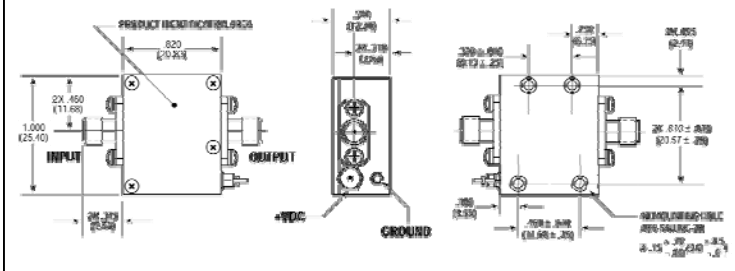
WEIGHT: 1 gram (0.04 oz.) max

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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