

Cascadable Amplifier 10 to 1200 MHz

Rev. V3

Features

- HIGH GAIN - TWO STAGES: 23.5 dB (TYP.)
- LOW NOISE: <3.8 dB (TYP.)
- HIGH OUTPUT LEVEL: +15.0 dBm (TYP.)
- WIDE POWER SUPPLY RANGE: 5 TO 15 VOLTS

Description

The A66 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.

Ordering Information

Part Number	Package
A66	TO-8
SMA66	Surface Mount
CA66 **	SMA Connectorized

** The connectorized version is not RoHs compliant.

Product Image



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	5-1250	10-1200	10-1200
Small Signal Gain (min)	dB	23.5	22.0	21.0
Gain Flatness (max)	dB	±0.3	±0.7	±1.0
Reverse Isolation	dB	32		
Noise Figure (max)	dB	4.0	5.0	5.5
Power Output @ 1 dB comp. (min)	dBm	15.0	14.0	13.5
IP3	dBm	+28		
IP2	dBm	+40		
Second Order Harmonic IP	dBm	+45		
VSWR Input / Output (max)		1.5:1 / 1.5:1	1.9:1 / 1.9:1	2.0:1 / 2.0:1
DC Current @ 15 Volts (max)	mA	64	67	70

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.)	100 mW
Peak Power (3 µsec max.)	0.5 W
"S" Series Burn-In Temperature (case)	+125°C

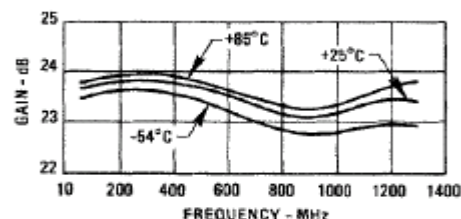
Thermal Data: $V_{CC} = +15 V_{DC}$

Parameter	Rating
Thermal Resistance θ_{jc}	145°C/W
Transistor Power Dissipation P_d	0.405 W
Junction Temperature Rise Above Case T_{jc}	59°C

1 * Over temperature performance limits for part number CA66, guaranteed from 0°C to +50°C only.

Rev. V3

Outline Drawing: TO-8 *



Frequency (MHz)	Noise Figure (dB)
10	4.2
200	3.6
400	3.6
600	3.8
800	4.1
1000	4.2
1200	4.1
1400	4.2

POWER OUTPUT - dBm

$V_{CC} = 15 \text{ Vdc}$

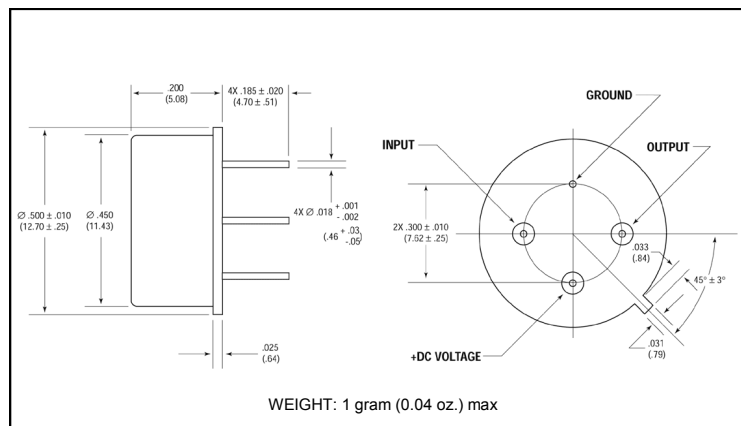
25°C

85°C

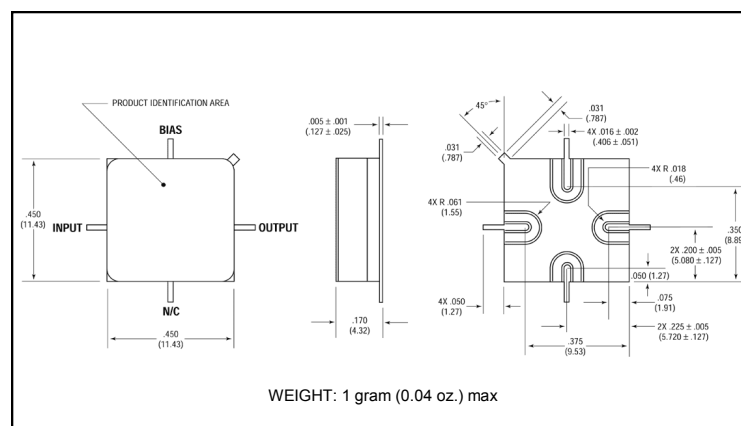
-54°C

FREQUENCY - MHz

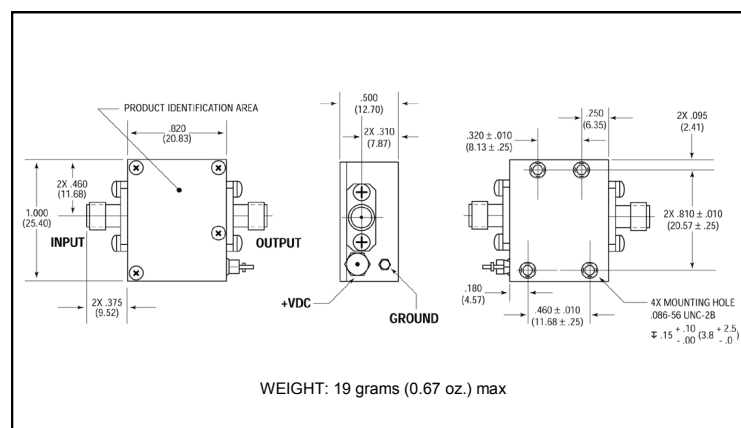
Frequency (MHz)	3RD ORDER TWO-TONE (dBm)	2ND ORDER TWO-TONE (dBm)	2ND HARMONIC (dBm)
0	53	48	27
200	52	47	27
400	51	46	27
600	50	45	27
800	50	45	27
1000	52	47	27
1200	54	49	28



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



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