

Cascadable Amplifier 100 to 3200 MHz

Rev. V3

Features

- ULTRAWIDE BANDWIDTH: 10-3200 MHz
- EXCELLENT GAIN BLOCK: 11.5 dB (TYP.)
- MEDIUM OUTPUT POWER: +8.5 dBm (TYP.)

Description

The A43 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
A43	TO-8
SMA43	Surface Mount
CA43 **	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	80-3200	10-3200	10-3200
Small Signal Gain (min)	dB	11.5	10.5	9.8
Gain Flatness (max)	dB	±0.3	±0.7	±1.0
Reverse Isolation	dB	27		
Noise Figure (max)	dB	7.0	7.5	8.0
Power Output @ 1 dB comp. (min)	dBm	8.5	7.0	6.5
IP3	dBm	+21		
IP2	dBm	+40		
Second Order Harmonic IP	dBm	+45		
VSWR Input / Output (max)		1.6:1 / 1.8:1	2.3:1 / 2.3:1	2.4:1 / 2.4:1
DC Current @ 15 Volts (max)	mA	45	48	50

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}	150°C/W
Transistor Power Dissipation P_d	0.193 W
Junction Temperature Rise Above Case T_{jc}	29°C

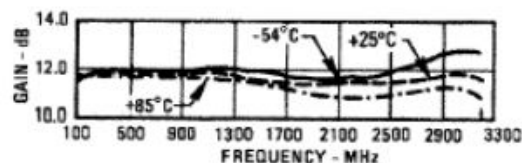
1 * Over temperature performance limits for part number CA43, guaranteed from 0°C to +50°C only.

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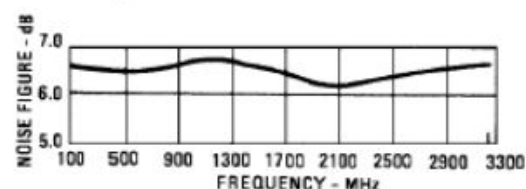
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Typical Performance Curves at +25°C

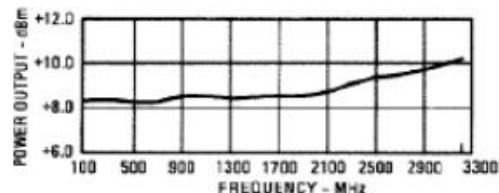
Gain



Noise Figure

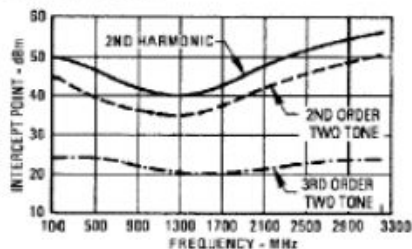


Power Output*

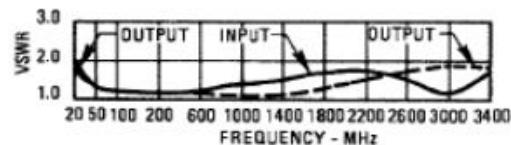


* at 1 dB Gain Compression

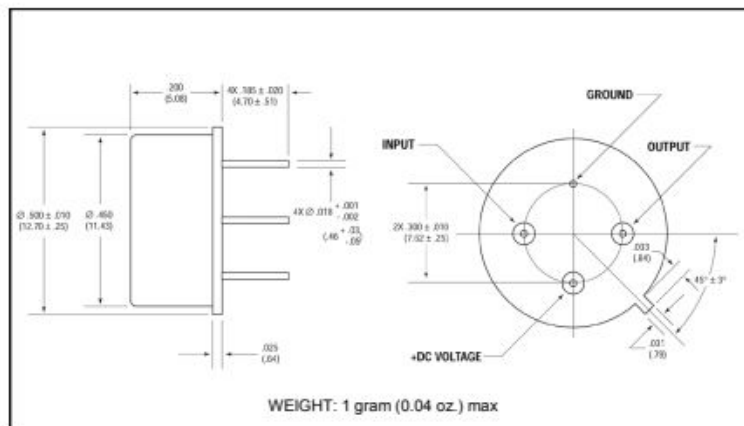
Intercept Point



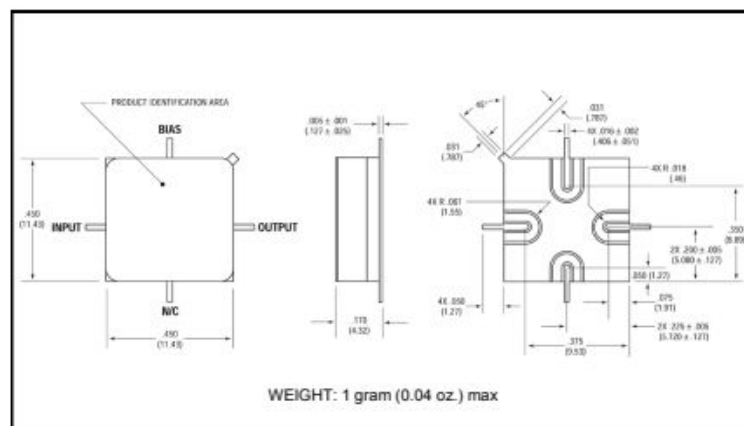
VSWR



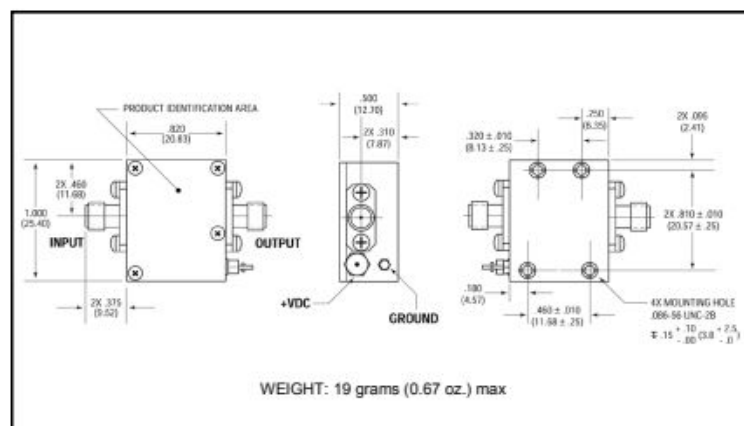
Outline Drawing: TO-8 *



Outline Drawing: Surface Mount *



Outline Drawing: SMA Connectorized *



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