

# 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.

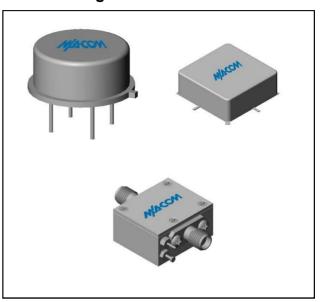
Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available

### **Ordering Information**

Part Number	Package	
A43	TO-8	
SMA43	Surface Mount	
CA43 **	SMA Connectorized	

<sup>\*\*</sup> The connectorized version is not RoHs compliant.

### **Product Image**



## Electrical Specifications: $Z_0 = 50\Omega$ , $V_{CC} = +15 V_{DC}$

#### **Typical** Guaranteed **Parameter** Units 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 +10 Reverse Isolation dB 27 Noise Figure (max) dB 7.0 7.5 80 Power Output dBm 8.5 7.0 6.5 @ 1 dB comp. (min) 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) mΑ 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 $\theta_{jc}$	150°C/W
Transistor Power Dissipation P <sub>d</sub>	0.193 W
Junction Temperature Rise Above Case T <sub>jc</sub>	29°C

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



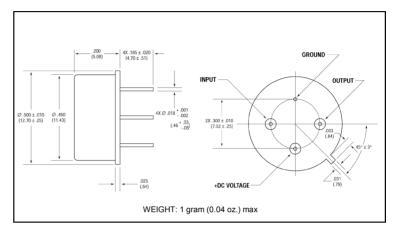
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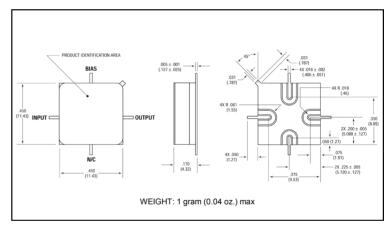
## Typical Performance Curves at +25°C

## Gain 쁑 N 12.0 10.0 500 100 900 1300 1700 2100 2500 3300 FREQUENCY - MHz Noise Figure 100 500 900 1300 1700 2100 2500 2900 3300 FREQUENCY - MHz Power Output\* 튵 +12.0 **OWER OUTPUT** +10.0 500 900 1300 1700 2100 2500 2900 100 FREQUENCY - MHz \* at 1 dB Gain Compression Intercept Point E 40 2ND ORDER TW0 TONE FREQUENCY - MHz **VSWR** DUTPUT **₩** 2.0 20 50 100 200 600 1000 1400 1800 2200 2600 3000 3400 FREQUENCY - MHz

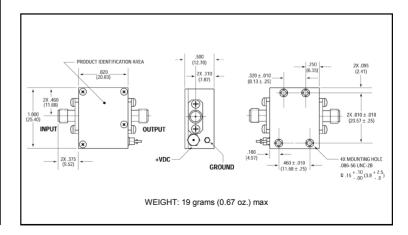
## Outline Drawing: TO-8 \*



## Outline Drawing: Surface Mount '



## Outline Drawing: SMA Connectorized \*



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

## A43 / SMA43



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