

# Cascadable Amplifier 10 to 1200 MHz

Rev. V3

#### **Features**

LOW NOISE: 3.0 dB (TYP.)

HIGH GAIN - TWO STAGES: 26 dB (TYP.)ULTRA LOW PHASE DEVIATION FROM

LINEARITY: <±2°, 100-1000 MHz

• LOW VSWR: 1.2:1 (TYP.)

#### **Description**

The A64 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.

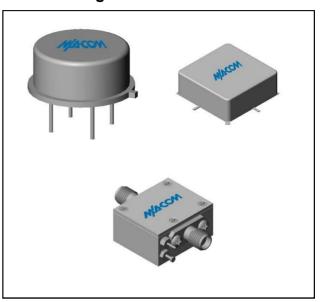
Both TO-8 and Surface Mount packages are hermetically sealed, and MIL-STD-883 environmental screening is available

#### **Ordering Information**

Part Number	Package	
A64	TO-8	
SMA64	Surface Mount	
CA64 **	SMA Connectorized	

 $<sup>\</sup>ensuremath{^{**}}$  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	2-1250	10-1200	10-1200
Small Signal Gain (min)	dB	26.0	24.0	23.0
Gain Flatness (max)	dB	±0.5	±0.8	±1.0
Reverse Isolation	dB	32		
Noise Figure (max)	dB	3.4	4.3	4.8
Power Output @ 1 dB comp. (min)	dBm	8.0	7.0	6.5
IP3	dBm	+20		
IP2	dBm	+41		
Second Order Harmonic IP	dBm	+47		
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	35	38	40

# **Absolute Maximum Ratings**

Parameter	Absolute Maximum	
Storage Temperature	-62°C to +125°C	
Case Temperature	+125°C	
DC Voltage	+20 V	
Continuous Input Power	6 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 <sub>jc</sub>	141°C/W
Transistor Power Dissipation P <sub>d</sub>	0.187 W
Junction Temperature Rise Above Case T <sub>jc</sub>	26°C

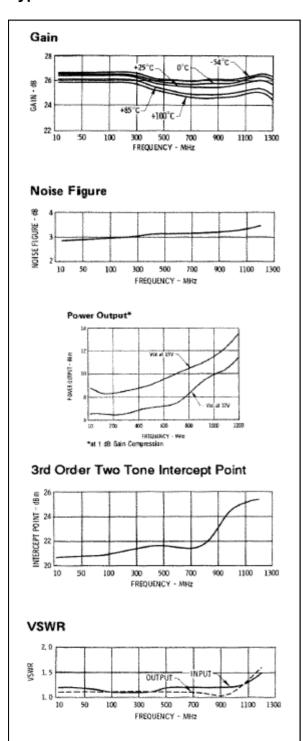
<sup>1 \*</sup> Over temperature performance limits for part number CA64, guaranteed from 0°C to +50°C only.



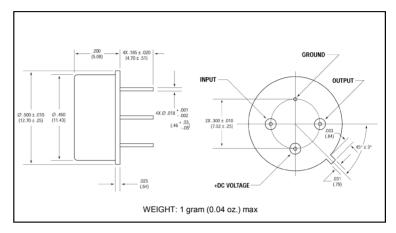
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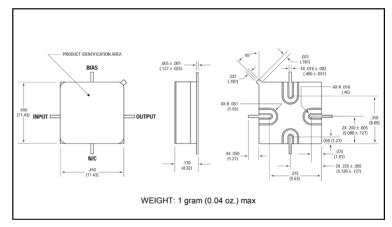
#### Typical Performance Curves at +25°C



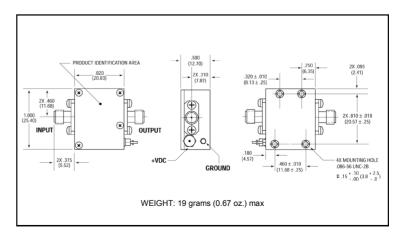
## Outline Drawing: TO-8 \*



# Outline Drawing: Surface Mount



# Outline Drawing: SMA Connectorized \*



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

# A64 / SMA64



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